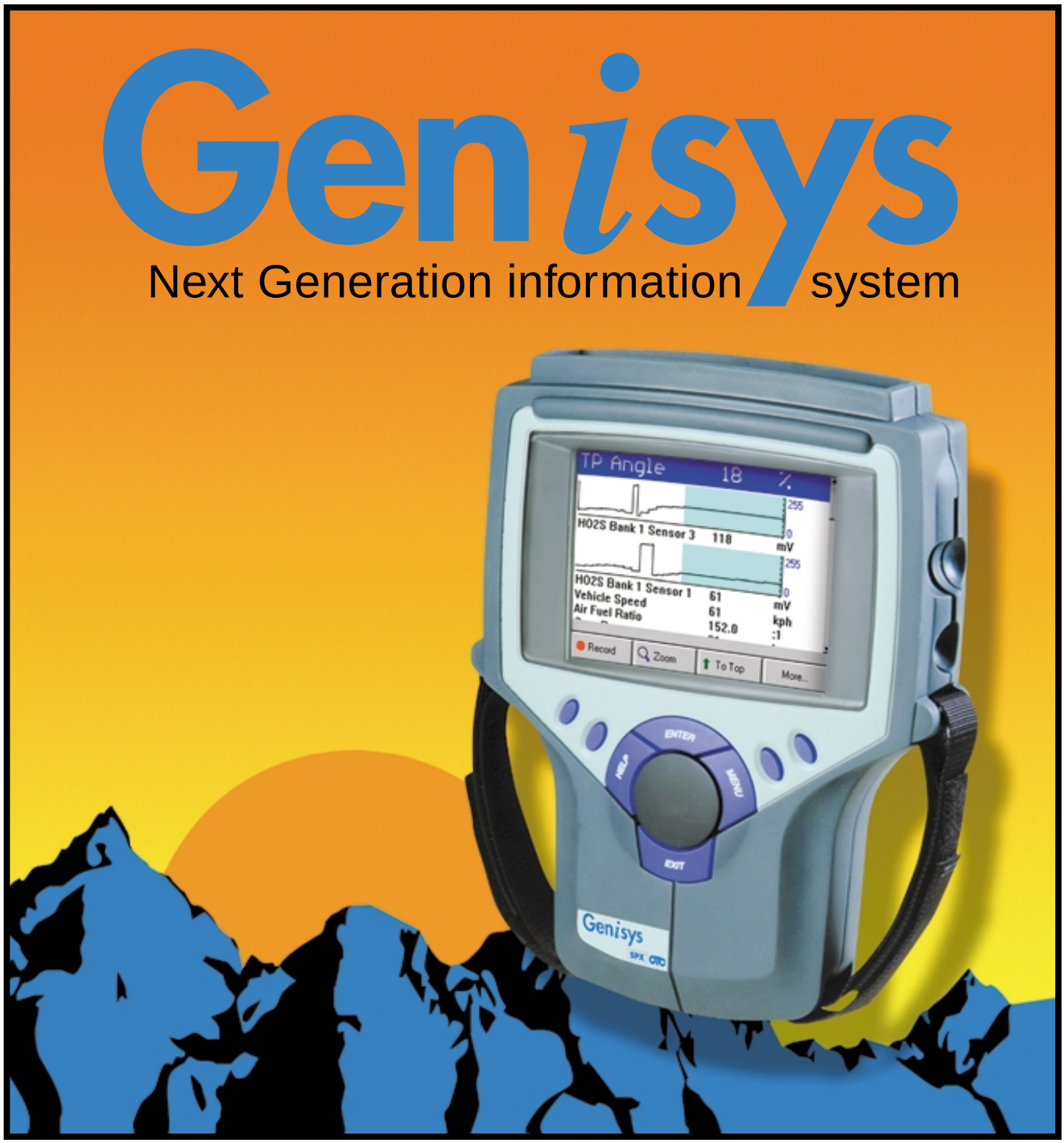
SPX OTC

GENISYS USER GUIDE

includes Genisys '99 diagnostic application program for 1995 to 1999 OBD II engine power control module



IMPORTANT NOTICE

SAFETY

All Danger, Warning and Important notes must be followed for your safety. These safety messages will be in the following formats:

- **Danger** means you may risk possible loss of life
- **Warning** means you may risk bodily harm
- **Important** means you risk damage to the vehicle or the tool
- **Notes** are 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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Gen*i*sys

User's Guide

Includes Genisys '99
diagnostic application program
for 1995 to 1999
OBD II Engine
Power Control Module

Section I: The Genisys System

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Safety Precautions

Warning:

- 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.

- Do not spray any liquids on the tester keyboard. Liquids may enter the tester and cause permanent damage to the electrical components. Flammable liquids may cause an explosion.

Important:

- To avoid damaging the tester or generating false data, make sure the vehicle battery is fully charged and all cable connections are clean and tight.

Specifications

Operating Temperature Range:

0-50° C

Storage Temperature Range:

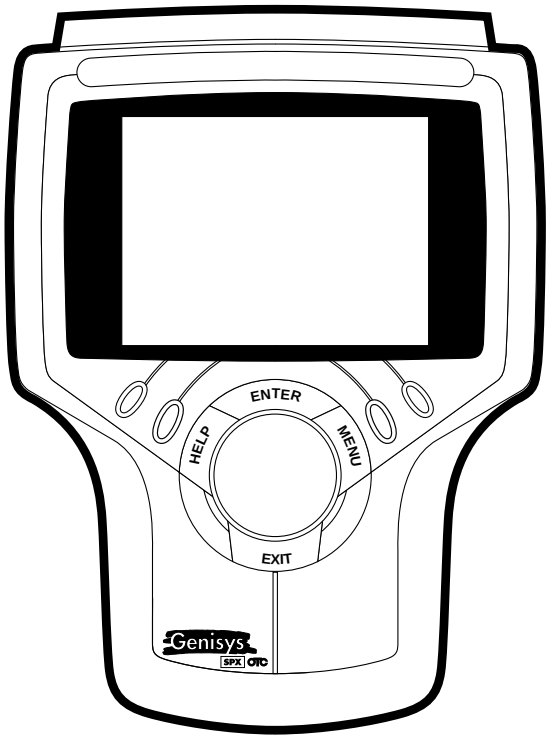
-40-85° C

Gen*i*sys

Introduction to Genisys

The Genisys is an easy-to-use hand-held instrument designed to operate software applications developed for automotive diagnostics. The Genisys functions with an internal operating system that accesses software programs residing in the internal memory, or on an external memory card. The Genisys can also communicate with personal computers through an RS-232 connection and with printers equipped with infrared communication capabilities.

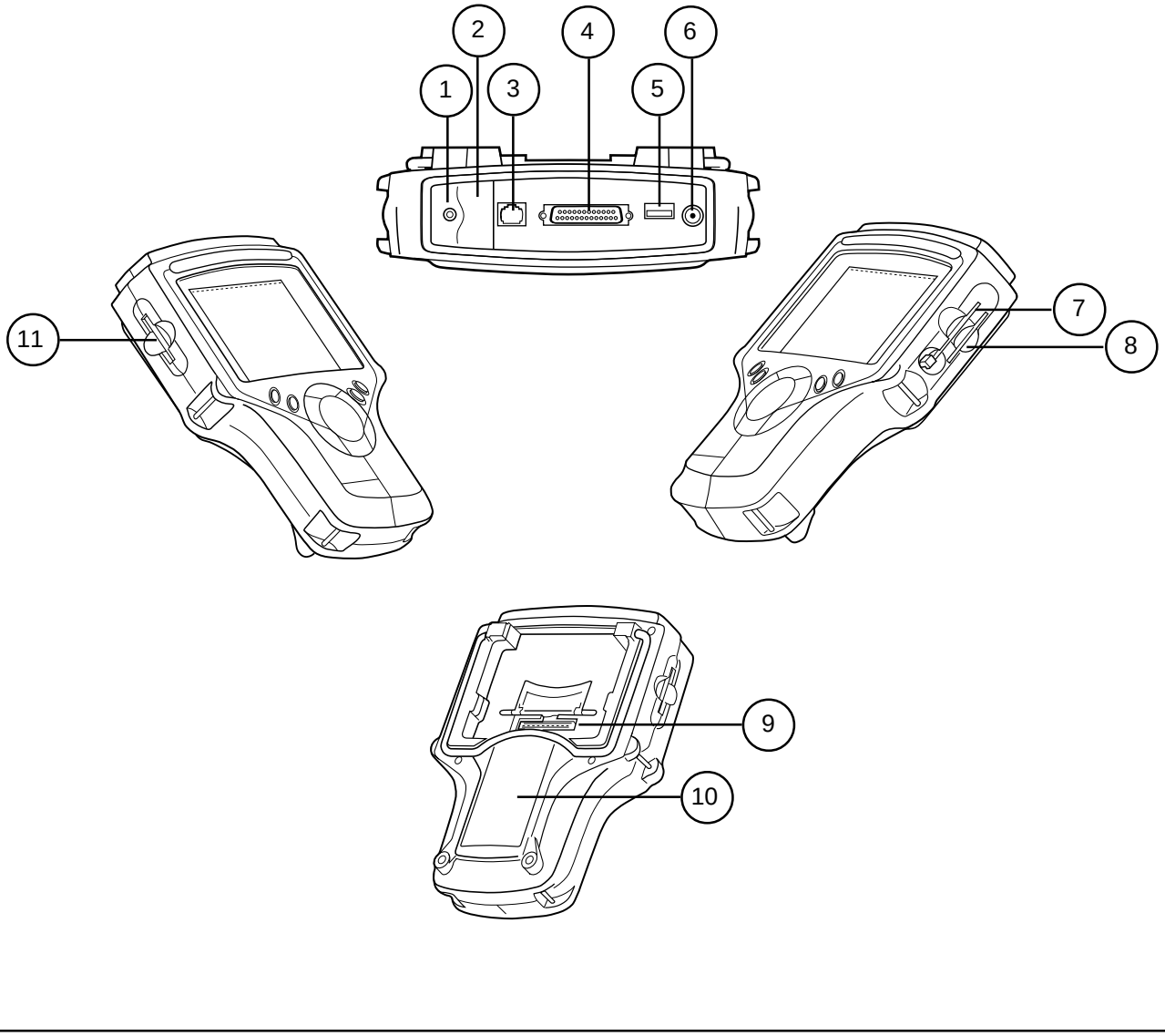
Additional automotive diagnostic software programs can be added to increase testing capability. Expanded communications and program flash memory updates will also be available. A Universal Serial Bus (USB) protocol adds even more expansion. Devices such as a keyboard, hard drive or other USB peripherals will be available.



External Ports and Functions

The Genisys is equipped with external ports to be used for connecting communication and peripheral devices:

- RS-232 serial communication port – the RS-232 serial port is used to communicate with a personal computer.
- Infrared communication window – the infrared capability is used to communicate with a parallel printer.
- Compact Card Flash Card port – the Compact Flash Disk supplies new programs to be loaded into the Genisys internal memory.
- PC Card port – The PC Card supplies capabilities such as modem, Ethernet, and wireless communications as these functions become available.
- Smart Card port – the Smart Card serves as a "key" (controlled access) security device.
- 25-Pin port – the 25-Pin port is used to connect a cable to a vehicle Data Link Connector.
- Universal Serial Bus (USB) port – USB capability is designated for future use as peripheral devices such as keyboards, printers and memory hard drives are made available.
- Hardware Interface (HIP) module port – The HIP port accepts the HIP module. The HIP module enables implementation of cartridge-contained software programs.
- External Power port – The Power port accepts 12 volt input for recharging the internal battery.



1. ON/OFF Button
2. Infrared Window
3. RS-232 Serial Port
4. DB-25 Pin Port
5. Universal Serial Bus (USB) Port
6. External Power Port
7. PC Card Port
8. Smart Card Port
9. Hardware Interface (HIP) Port
10. Internal Battery
11. Compact Flash Card Port

Figure: External Ports

Adapter Connection

Communication with the computer installed in a vehicle requires an adapter cable connection to the vehicle Data Link Connector and to the Genisys. The vehicle cable connection also provides 12-volt power to the Genisys.

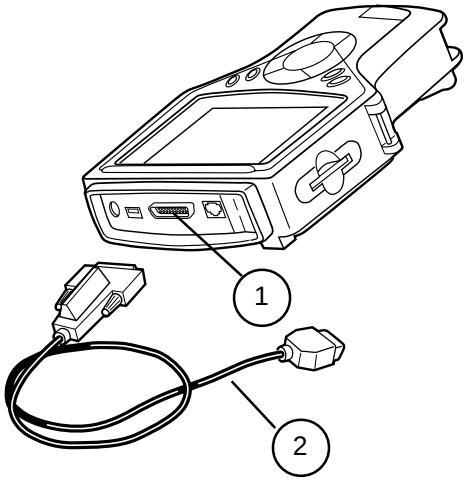
Connecting the Vehicle Adapter Cable

The Pathfinder program will identify the cable that must be connected for vehicle communication only after the vehicle identification information is entered into the program. To connect a vehicle adapter cable, follow these steps:

1. Enter the vehicle identification information into the Pathfinder program (refer to *Vehicle Identification* in this manual).
2. Attach the vehicle adapter cable to the DB-25 pin port (see Figure: Connect Data Link Connector cable to Genisys).
3. Attach the vehicle cable to the vehicle Data Link Connector. Power is provided to the Genisys through the vehicle cable (see Figure: Connect Data Link Connector cable to Vehicle).

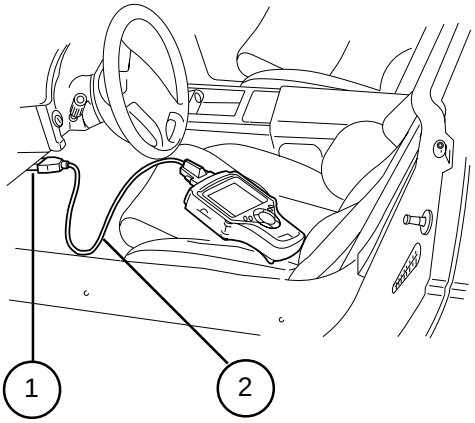
Universal Serial Bus

The Universal Serial Bus (USB) provides additional expansion capability with all standard USB compliant peripherals, see Figure: External Ports.



1. DB-25 External Port
2. Vehicle Adapter Cable

Figure: Connect the Data Link Connector Cable to Genisys



1. Data Link Connector
2. Vehicle Adapter Cable

Figure: Connect the Data Link Connector Cable to Vehicle

PC Card

The PC Card supplies capabilities such as modem, Ethernet, and wireless communications as these functions become available for the Genisys.

PC Card Insertion

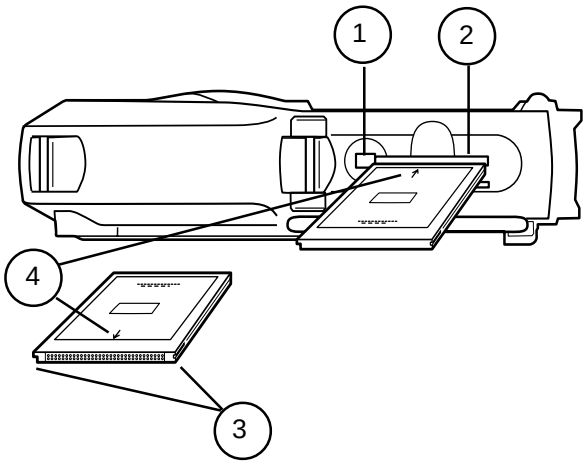
To insert a PC Card, follow these steps:

1. The PC Card is “keyed” with a single edge on one side and a double edge on the other side. Align the edges with the same slot configuration in the Genisys.
2. Align the directional arrow toward the tool port.
3. Smoothly insert the card until it clicks in place.

PC Card Removal

To remove the PC Card, follow these steps:

1. Press firmly on the ejector button located beside the PC Card slot.
2. Smoothly pull the PC Card out of the slot.



1. Eject Button
2. PC Card Slot
3. PC Card: Align Single and Double Edges
4. Directional Arrows

Figure: PC Card Slot

Smart Card

The Smart Card contains user and subscription information for the Genisys. In most cases, the Smart Card is only used when a new software program is installed. After program installation, the card may be removed for storage in a secure place.

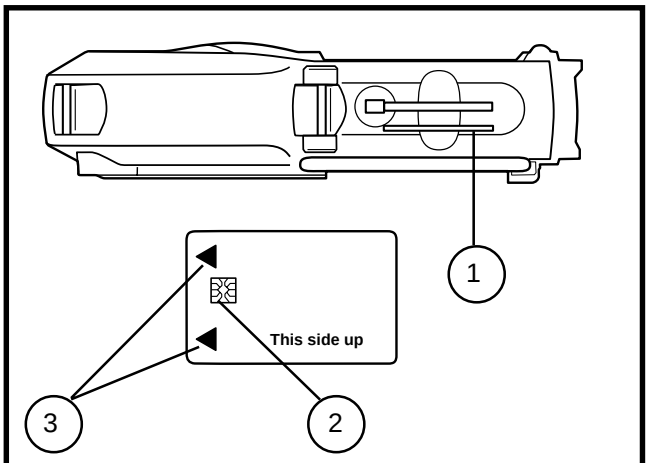
Smart Card Insertion

To insert a Smart Card, follow these steps:

1. Position the Smart Card memory chip so that it can be viewed from the front of the Genisys.
2. Align the directional arrow.
3. Slide the Smart Card smoothly into the Genisys Smart Card slot.

Smart Card Removal

To remove the Smart Card, grip the card between your thumb and forefinger, and then smoothly pull it out of the slot.



1. Smart Card Slot
2. Smart Card Memory Chip
3. Directional Arrow

Figure: Smart Card Slot

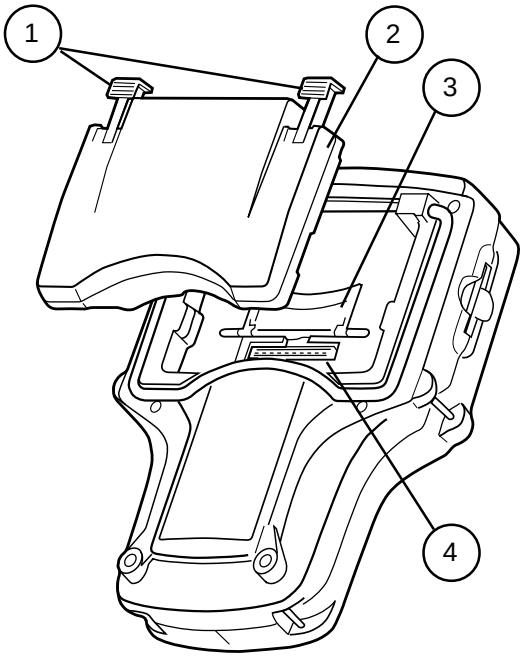
Hardware Interface Adapter

The Hardware Interface Adapter is plugged into the Hardware Interface Port (HIP) to permit the use of software programs resident on cartridges; for example, OTC Pathfinder '99 and others.

Hardware Interface Adapter

To attach a Hardware Interface (HIP) Adapter, follow these steps:

1. Position the Genisys to access the back. Open the protective Hardware Interface Port door (see Figure: Hip Adapter).
2. Position the HIP adapter as illustrated, align the port connections, and then press firmly together.
3. Slide the locking bars in to lock the adapter in place.



1. Locking Bars
2. Hardware Interface Adapter
3. Hardware Interface Port Door (shown open)
4. Hardware Interface Port

Figure: HIP Adapter

Hardware Interface Removal

To remove a Hardware Interface (HIP) Adapter, follow these steps:

1. Remove the HIP by sliding the locking bars out, and then pull the adapter straight upward (see Figure: Hip Adapter).
2. Close the protective Hardware Interface Port door.

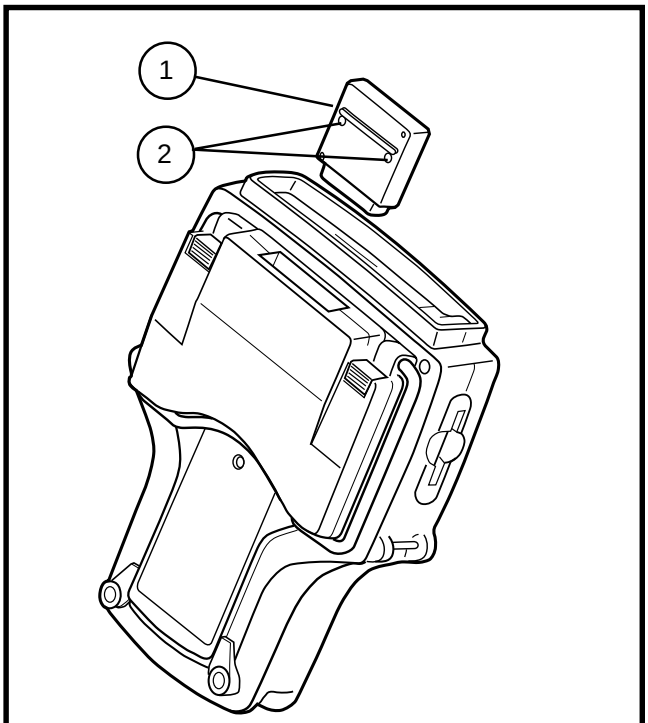
Cartridge Insert or Removal

To insert a cartridge into the Hardware Interface (HIP) Adapter, follow these steps:

1. Position the program cartridge with the locking bumps positioned as illustrated in *Fig.: Software Cartridge*.
2. Align the cartridge with the slot and press firmly together until the locking bumps snap into place.

To remove a cartridge from the HIP Adapter:

Grip the program cartridge firmly and pull it straight out.



1. Program Cartridge
2. Locking Bumps

Figure: Software Cartridge

Compact Flash Card

The Compact Flash Card is generally used to provide additional programs for the Genisys.

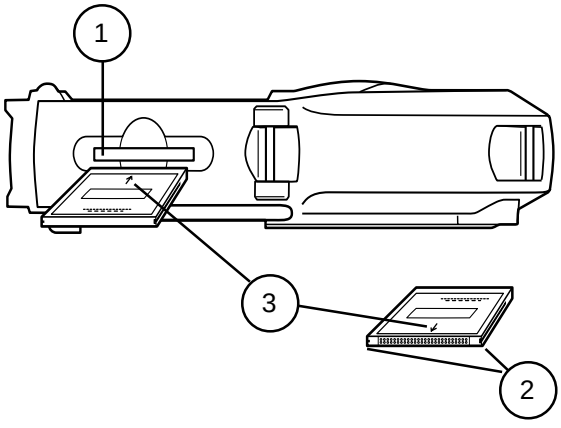
Compact Flash Card Insertion

To insert a Compact Flash Card into the Genisys tool, follow these steps:

1. The Compact Flash Card is “keyed” with a single edge on one side and a double edge on the other side (see Figure: Compact Flash Card Slot). Align the edges with the same slot configuration in the Genisys.
2. Align the directional arrow towards the Flash Card slot.
3. Smoothly insert the card until it clicks in place.

Compact Flash Card Removal

To remove a Compact Flash Card from the Genisys tool, grip the Flash Card between your thumb and forefinger, and then smoothly pull it out of the slot.



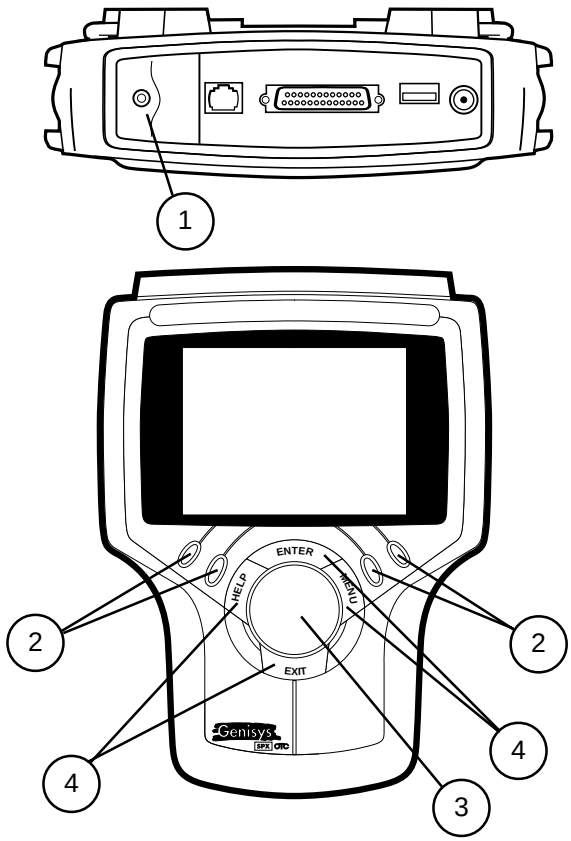
1. Compact Flash Card Slot
2. Compact Card: Align Wide and Narrow Slots
3. Directional Arrow

Figure: Compact Flash Card Slot

Command Key Operation

The Genisys key input consists of four areas:

- Power key (On/Off)
- Function keys (F1 – F4)
- Direction key (Left/right/up/down)
- Action keys (Help, Enter, Exit, Menu)



1. Power key
2. Function keys
3. Direction key
4. Action keys

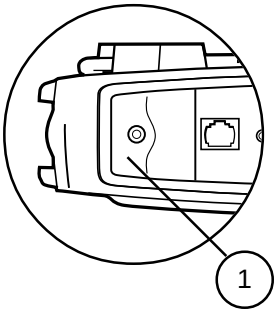
Figure: Key Operation

Power Key

The Power key is used to power the Genisys on or off.

Activation Step

To supply power to the Genisys tool, press the Power key to turn the unit ON or OFF.



1. Power Key

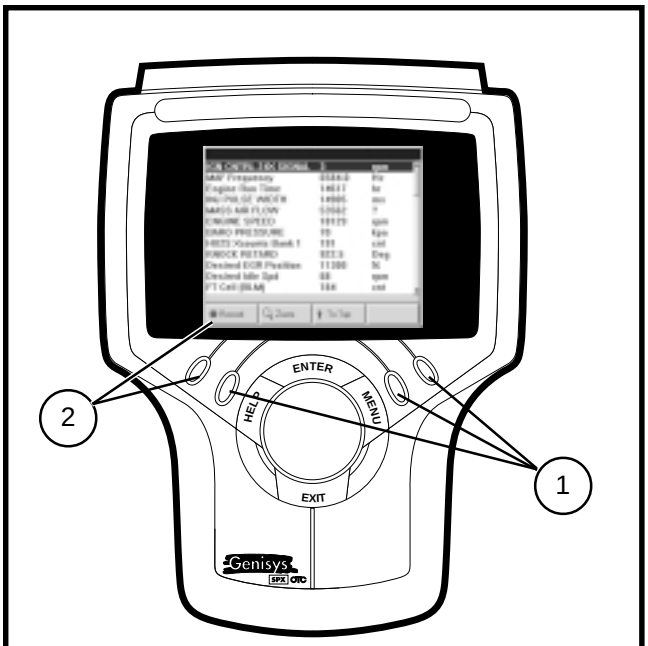
Figure: Power Key

Function Keys

The Function keys activate a unique command. Each command function is displayed in the software function boxes located at the bottom of the Genisys screen. The functions are controlled by the software program and will change as different parts of a test procedure are displayed.

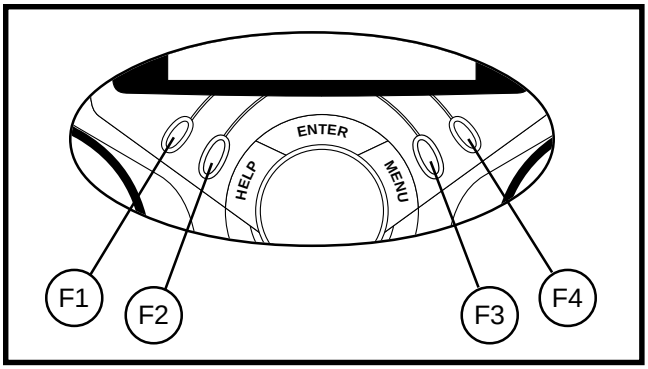
Function Key Activation

To activate a function, press the corresponding Function key to select a software function box displayed on the screen.



1. Function Keys
2. For example: Press Function key 1 to activate software function box 1

Figure: Function Keys

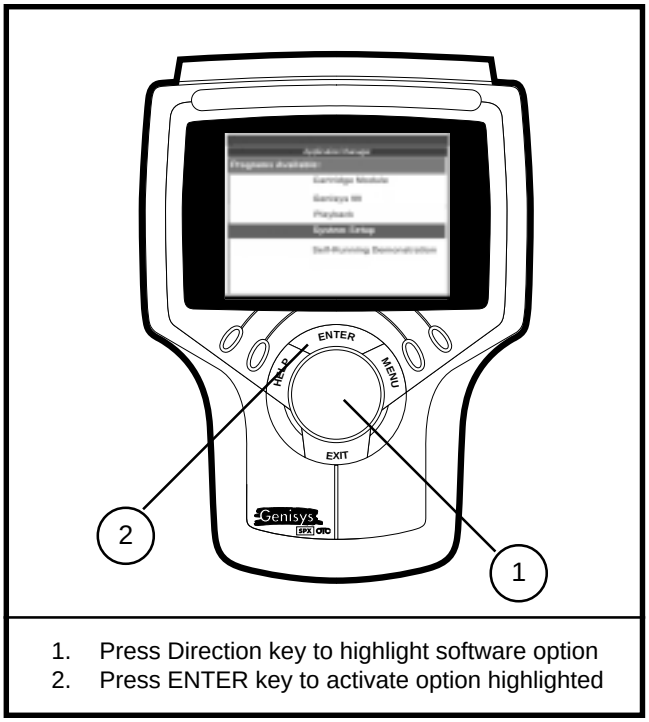


Direction Key

The Directional key moves the command bar in a left, up, right or down direction on the screen.

Direction Key Operation

To move the command bar about the screen, press the appropriate side of the Direction key to highlight a desired option on-screen, and then press ENTER to activate the option.



1. Press Direction key to highlight software option
2. Press ENTER key to activate option highlighted

Figure: Directional Key

Command Bar

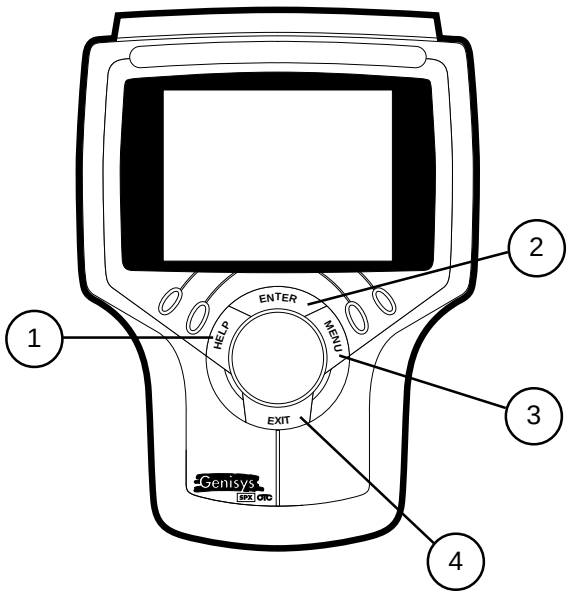
The Genisys software programs are navigated by selecting a menu option or command with an on-screen Command Bar (cursor).

To Activate With the Command Bar

To select a menu choice for activation, position the Command Bar using the Genisys Direction Key, and then click **ENTER** (see Figure: Directional Key). Move the Command Bar to the top or the bottom of the screen to view the next page.

Action Keys

The Action keys activate an action or request an application.



1. HELP Key
2. ENTER Key
3. MENU Key
4. EXIT Key

Figure: Action Keys

Action Key Operation

- Press HELP to request information for an option on the viewed screen.
- Press ENTER to activate or select an action.
- Press MENU to go to a program menu; or, press MENU and EXIT to go to the application manager menu.
- Press EXIT to move back (exit or quit) one screen at a time.

Internal Battery

A single, rechargeable Nickel Metal Hydride (NiMH) battery supplies power when the Genisys is not connected to a vehicle. During vehicle testing, power for the Genisys is provided through the vehicle adapter cable.

Battery Recharge

To recharge the Genisys internal battery, follow these steps:

1. Plug the 12-volt Battery Charger unit into a 120-volt wall outlet.
2. Plug the Battery Charger connector into the External Power Port located on the top of the Genisys. See Figure: Battery Charge Port or Replacement.

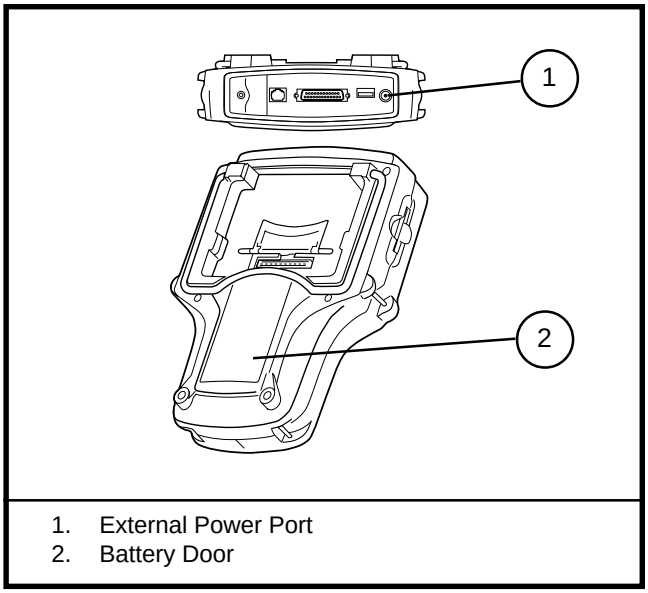
If the battery is fully discharged, it will take approximately 20 hours to recharge. The battery charger will automatically shut off when the battery is brought to full power.

Battery Replacement

Important: The battery must be replaced when it will no longer hold a charge.

To replace a battery, follow these steps:

1. Open the battery door located on the back of the Genisys. See Figure: Battery Charge Port or Replacement.
2. Remove the battery connections from the old battery.
3. Place the battery connections onto the new battery, and then place the battery into the battery compartment.
4. Secure the battery door onto the back of the unit.



1. External Power Port
2. Battery Door

Figure: Battery Charge Port or Replacement

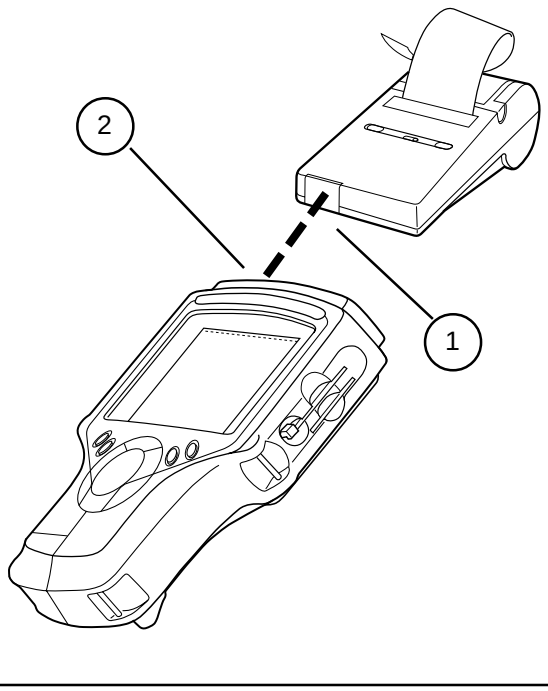
Printer Operation

The Genisys prints diagnostic trouble codes, sensor data, and report summary data through a Hewlett-Packard portable printer (OTC P/N 3157).

To Print Data

To print data, follow these steps:

1. Supply power to the printer.
2. Point the Genisys infrared port at the printer infrared port, and then press the function key for PRINT (see Figure: Printing).
   Important: The Genisys infrared port must remain pointed at the printer infrared port until the entire print operation is completed.



1. Printer infrared port
2. Genisys infrared port

Figure: Printing

Application Manager

The Application Manager is the main menu from which all programs are selected or exited.

More About Application Manager

The application manager is displayed immediately after the power is supplied to the Genisys and the operating system is "loaded" into operating memory. All programs available on the internal disk and any software cartridge programs available through the Hardware Interface Port (HIP) are made available on the application manager main menu.

Program Activation

To activate a program, highlight it with the command bar, and then press ENTER.

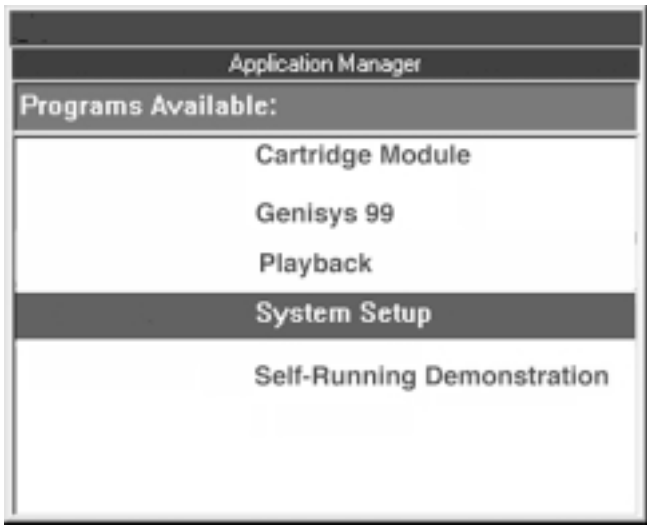


Figure: Application Manager

System Setup Utility

The System Setup Utility provides basic operating system settings such as system function configuration, contrast and print setup.

System Configuration

To change the system configuration, follow these steps:

1. Select **System Setup** from the **Application Manager** menu.
2. From the **System Setup** menu, select the system configuration to change:
   - **Contrast** - Lighten or darken the screen contrast for viewing in changing light conditions. Press the Left or Right arrow key to change the screen contrast.
     Tip: Press the MENU key and Function key 1 from any place in any program to go directly to the contrast adjust screen.
   - **Header** - Configure a six-line print header to be printed at the top of your printed reports. Press up or down on the center direction key to select a character, press the right side of the direction key to go to the next space.
   - **Language** - Select up to three languages in the order you prefer to see them displayed for a program; for example, If the language you prefer to see is not available for a program, select a second and third language choice. Press the Left or Right directional key to highlight the setting to change, press the Up or Down directional key to change the setting.
   - **Printer** – Select a printer driver for your printer.
   - **Power Settings** – Select Genisys power management settings and timers.
   - **Versions** – View the version level for each software program.
   - **Unit Defaults** – Set the time, date, toggle the backlight or beep on or off, or set the display units to English or Metric.

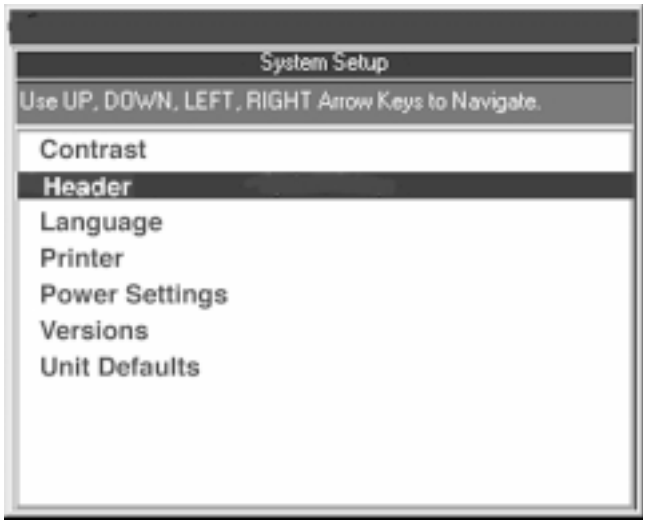


Figure: System Configuration

Path Reference

Application Manager Menu → System Setup → Contrast, Header, Language, Printer, Power Settings, Versions, Unit Defaults. → Time, Date, Backlight, Beep, Units English/ Metric.

Genisys ‘99

Section 2: Genisys '99

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:

- Liquids under pressure may escape and create a dangerous condition if you are working with hydraulic or fuel lines. Make sure there is adequate ventilation and there is no possibility of sparks present that may ignite any vapor.

- 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 a test unit at the same time. Any distractions may cause an accident. Have one person operate the test unit as another person drives the vehicle.

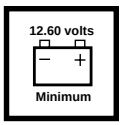
- Be sure there is adequate clearance between moving components, belts and any cables used during testing. Moving components and belts can catch loose clothing, a test cable, or a hand or leg and cause serious damage or personal injury.

- Wear an ANSI approved eye shield when testing or repairing vehicles. Objects falling into whirling engine components or pressurized liquids escaping may cause 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.

Important:

- To avoid damaging the tester or generating false data, make sure the vehicle battery is fully charged and the connections to the vehicle's computer are clean and tight.



- Vehicle Cable Adapters specified in the software program must be used or inaccurate test results will occur.

Genisys ‘99 Diagnostics Overview

The Genisys ‘99 Diagnostics program processes vehicle control system data into an easily readable format, and then makes that data accessible through the Genisys tool. The program will read, graph and record sensor and switch input or output (data stream). The program also reads diagnostic trouble codes and performs special tests.

More about Vehicle Diagnostics

Genisys ‘99 tests all On-Board Diagnostics Two (OBD II) applications such as GM, Saturn, Ford, Jeep and Chrysler, as well as most Asian and European imports equipped with the OBD II emissions standard system. The Genisys ‘99 program initiates the diagnostic process by creating a custom menu that lists tests and procedures available for each vehicle description entered into the program. From the custom diagnostic menu, a number of powerful test options can be selected:

- Select DATASTREAM to view sensor and switch data stream information communicated from the vehicle computer. The sensors can be arranged on-screen for side-by-side comparison, viewed in a real-time graph, and also recorded and printed for examination or as a document.
- Press the RECORD Function key to quickly capture data that occurs before and after the function key is pressed; or, view a file recorded when a diagnostic trouble code is detected
- Select DIAGNOSTIC CODES to view diagnostic trouble codes set by the vehicle computer. Genisys ‘99 can view pending codes to see if a trouble code is about to be set. And Genisys ‘99 lists the General Motors OBD II trouble code designations of A, B, C, and D to help lead the technician through problem diagnosis in order of importance.
- Select SPECIAL TESTS to initiate many specific tests for vehicle sensors. In addition, control General Motors bi-directional devices and view the immediate sensor reactions on-screen.

When the repair is completed verify the repair with the Drive Cycle Enable Criteria. You will be able to activate a specific Vehicle System Monitor to verify repairs, or perform the Full Drive Cycle to enable all the Vehicle System Monitors.

Genisys ‘99 Quick Start-up

The start-up procedure will begin immediately when the Genisys is powered on. After a brief self-check, the Genisys opens with a general application menu from which System Setup or diagnostic programs, such as Genisys ‘99, may be selected.

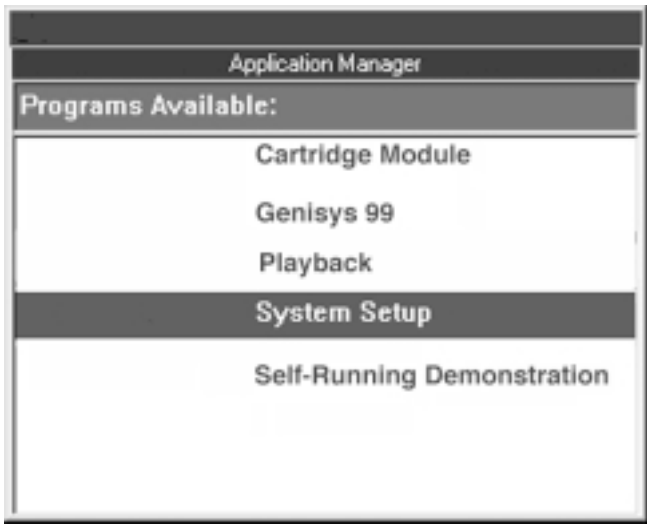


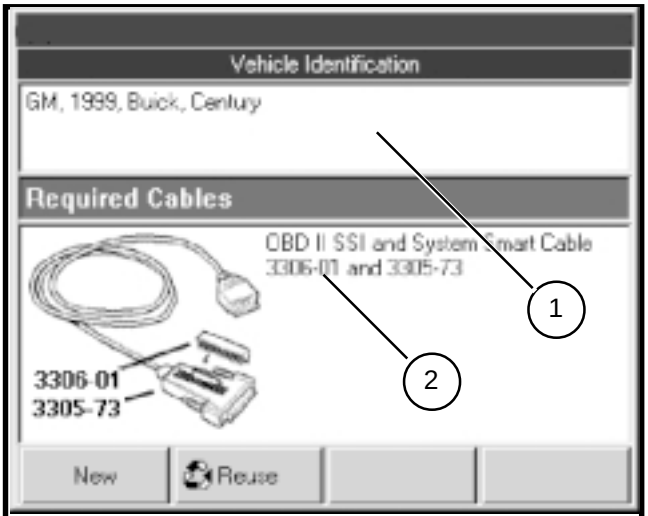
Figure: Application Manager Menu

To Start Genisys ‘99

To start the Genisys ‘99 program, follow these steps:

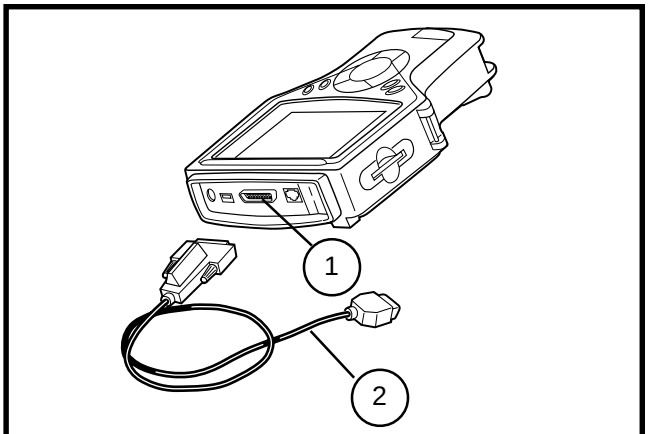
1. Turn the Genisys power ON. The tool will automatically initialize the operating system.
2. From the opening Application Manager Menu, select **Genisys ‘99**.
3. Begin the program by entering the vehicle description (see Figure: Vehicle Description)
4. When the vehicle description is completed, attach the 25-pin connector end to the Genisys tool (see Figure Vehicle/Cable and Figure: Connect Data Link Connector cable to Genisys)
5. Attach the Data Link end connector to the vehicle Data Link Connector (see Figure: Connect the Data Link Connector Cable to Vehicle).
6. From the Diagnostic menu, select the tests to perform on the vehicle (see Figure: Diagnostic Menu).

Figure: Vehicle Description



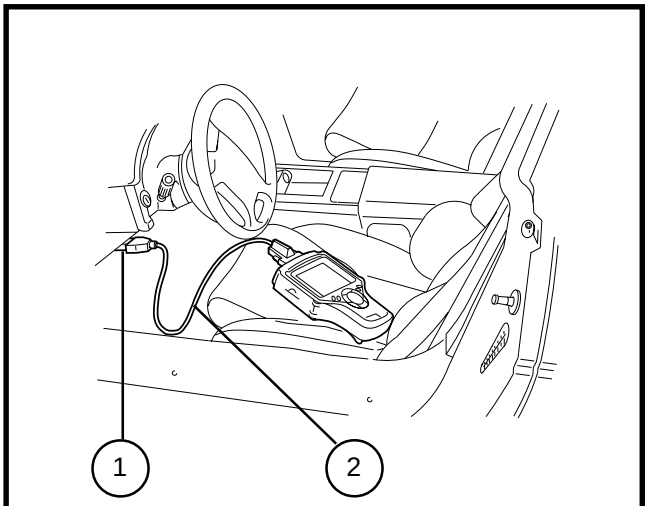
1. Vehicle Description
2. Vehicle Cables required

Figure: Vehicle/Cable



1. DB-25 External Port
2. Vehicle Adapter Cable

Figure: Connect the Data Link Connector Cable to Genisys



1. Data Link Connector
2. Vehicle Adapter Cable

Figure: Connect the Data Link Connector Cable to Vehicle

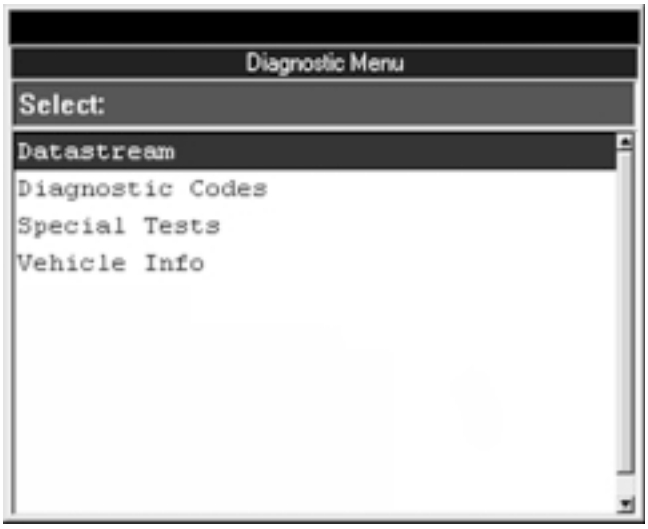


Figure: Diagnostic Menu

Print Template

Configure a six-line print template with an area for your business name, address, telephone number, or whatever you want printed at the top of each page. The template also prints the vehicle description and diagnostic information.

Template Configuration

To configure the template, follow these steps:

1. Select **System Setup** from the **Application Manager** menu. Click on **Header**.
2. Enter the header information as follows:
   - Press the left or right arrow key to position the cursor left or right.
   - Press the UP or DOWN arrow key to scroll through the letter, number and symbol choices.
   - Press the left or right arrow key to save your choice and to go to the next space.
   - Press EXIT to save your configuration.

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GM, 1996, Chevrolet, Car, Lumina, LS, 3.4

Trouble Codes:4
Current Codes:3

-Basic Information Block-

Coolant Temp.	180 F
Mass Air Flow	4 G/S
Throttle Position	2.33 V
RPM	2000
O2 Volts	0.520 V
O2 Cross Counts	6

——Printing Complete——

Figure: Print Template

Genisys '99 Operation Overview

Begin the Genisys '99 program by entering a VEHICLE DESCRIPTION. Genisys '99 responds with a custom menu that lists testing options available; for example:

- select DATASTREAM to view sensor and switch data stream information,
- select DIAGNOSTIC CODES to view diagnostic trouble codes set by the vehicle computer,
- select SPECIAL TESTS to initiate specific tests for vehicle sensors,
- select VEHICLE INFORMATION to view information provided by the vehicle computer about the vehicle,

See Figure: Vehicle Description and Figure: Diagnostic Menu

Vehicle Description

Vehicle description is required for the Genisys program to create a custom menu that lists the tests and procedures available. The required description process to enter a new vehicle often requires several steps. Genisys speeds this process by storing up to 25 vehicle descriptions in files that you can re-use to re-enter a vehicle description. Simply select the saved description file and press Enter. Refer to Figure: Vehicle Description Overview to view a "snapshot" of typical vehicle identification screens.

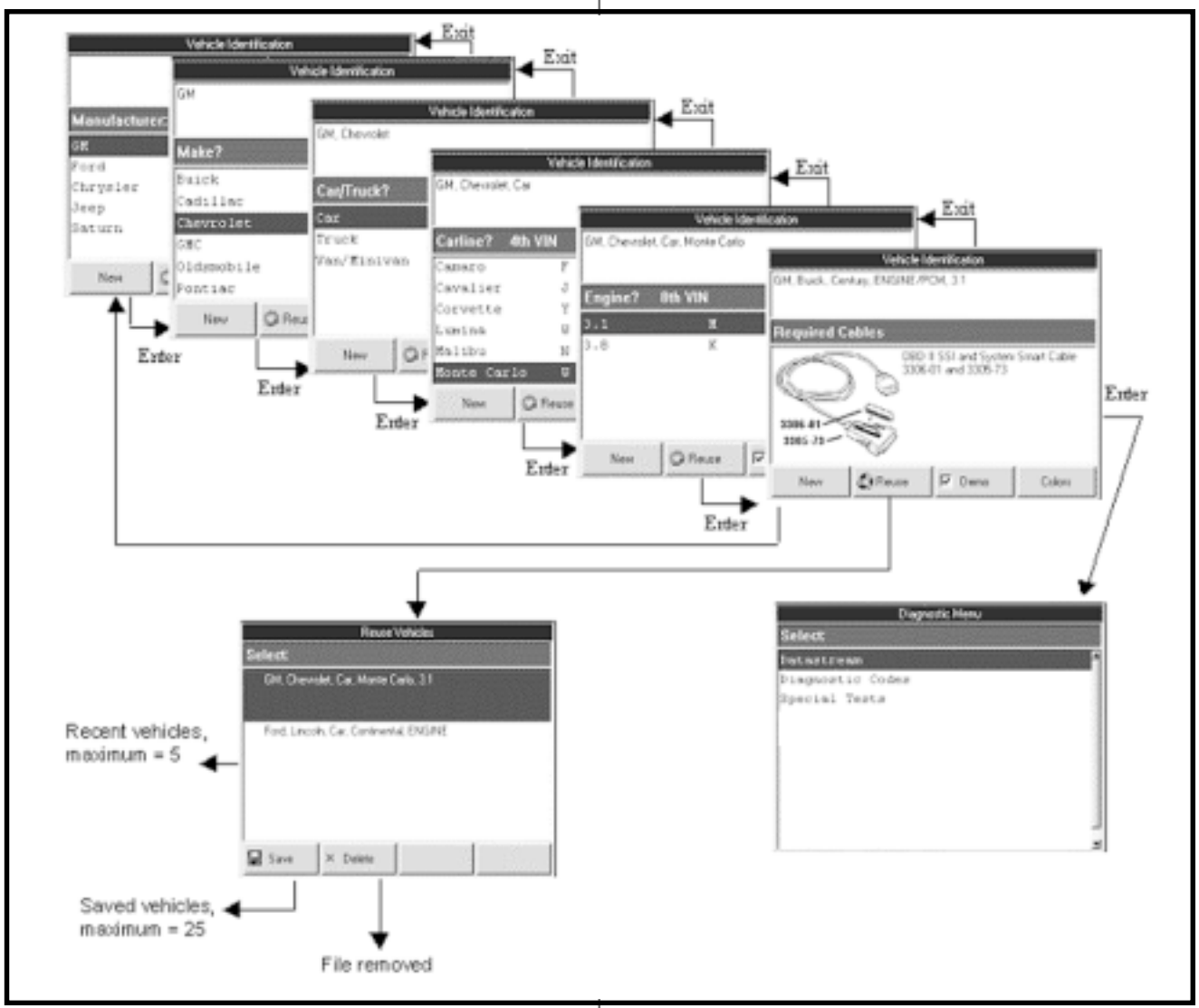


Figure: Vehicle Description Overview

New Vehicle Description

New Vehicle description lists the classification required to identify a vehicle for testing.

As a vehicle is identified, the classification path selected is displayed at the top of the screen. When all vehicle classifications are determined, the cables required to connect the test unit to the vehicle are displayed at the bottom of the screen.

Vehicle Description Steps

To identify a new vehicle, follow these steps:

1. Select a Vehicle Manufacturer, press ENTER.
2. Select from each of the vehicle classification screens that follow until the vehicle is fully identified.
3. View the vehicle adapter cables required for connecting the test unit to the vehicle.

Figure: Vehicle Description

Saved Vehicle Description

New vehicle information entered into the program may be saved or reselected for vehicle testing.

As many as 25 vehicle classification descriptions may be saved to memory for later use. Vehicle descriptions may be processed in one of three methods:

- Save the vehicle description,
- Reuse the vehicle description,
- Delete the vehicle description

Save Vehicle Description

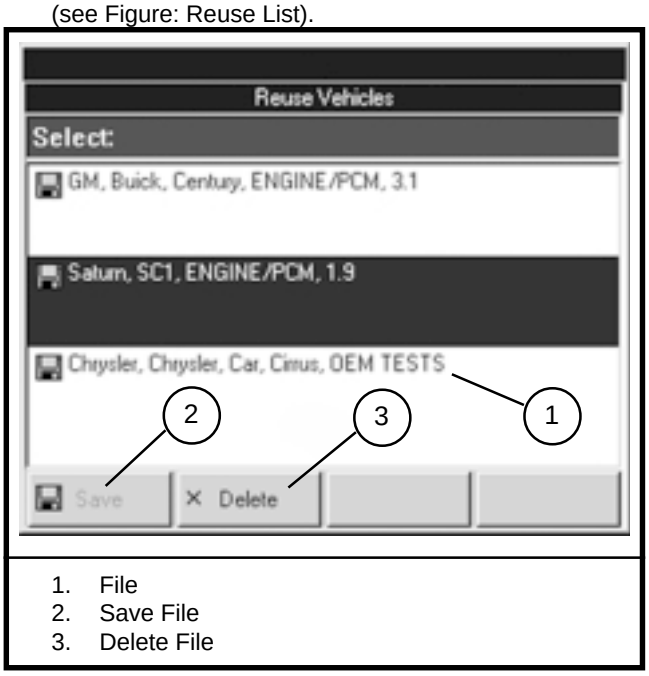
To save vehicle identification to a file, follow these steps:

1. Press the REUSE Function key to copy the vehicle description (see Figure: Vehicle Description)
2. Press the SAVE Function key to save the vehicle description to memory.

Reuse a Vehicle Description

To use a saved vehicle identification file, follow these steps:

1. Press the REUSE Function key (see Figure: Vehicle Description)
2. Select the vehicle to reuse from the list, press ENTER (see Figure: Reuse List).



1. File
2. Save File
3. Delete File

Figure: Reuse List

Delete a Vehicle Description

To delete a vehicle description, follow these steps:

1. Select the vehicle file to delete.
2. Press the DELETE Function key, see Figure: Reuse List.

Data Stream

Data Stream is the electrical signal sent between the vehicle computer and the vehicle sensors or switches. The data is converted and displayed in a readable format for the repair technician.

See Figure: Data Stream Overview.

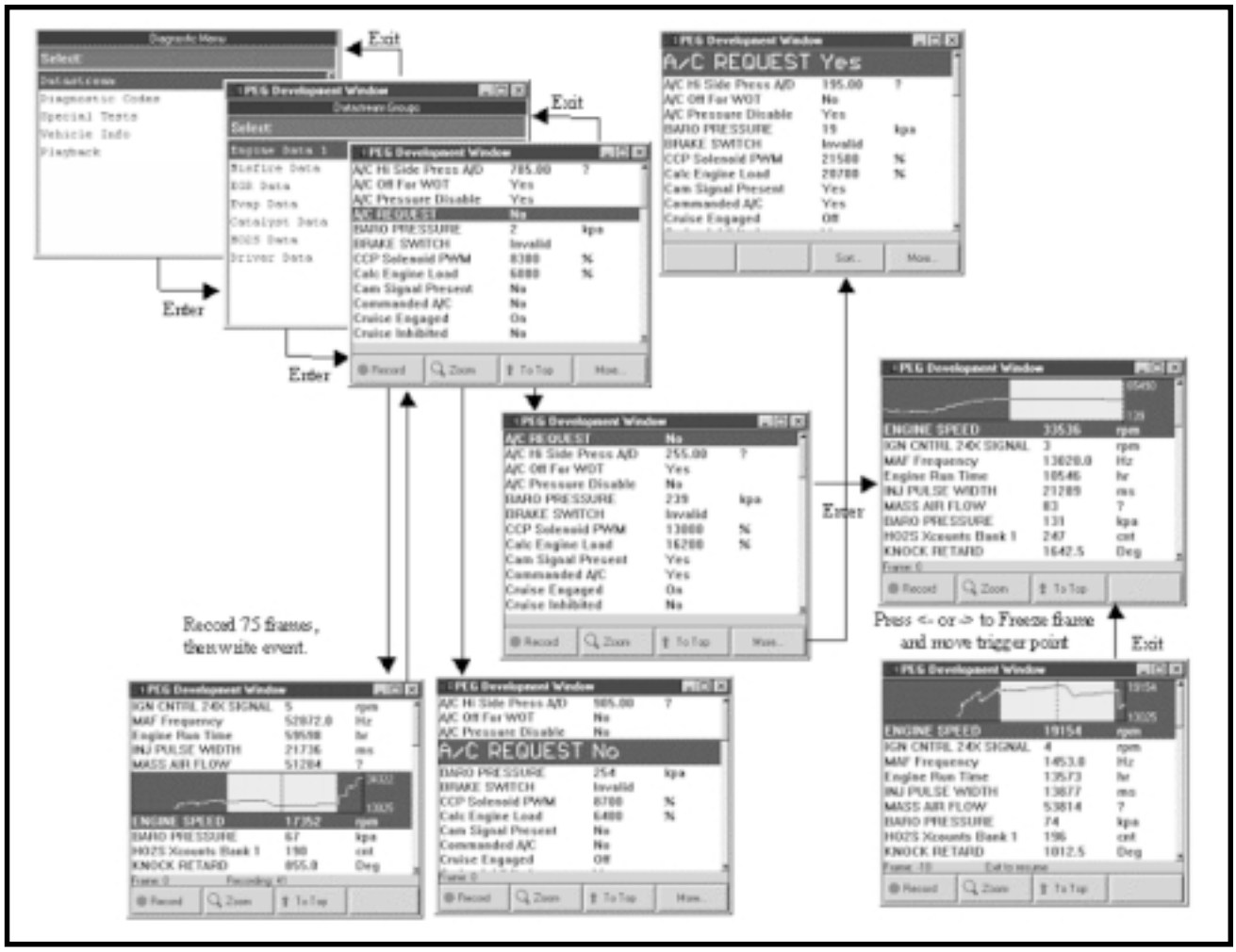


Figure: Data Stream Overview

More About Data Stream

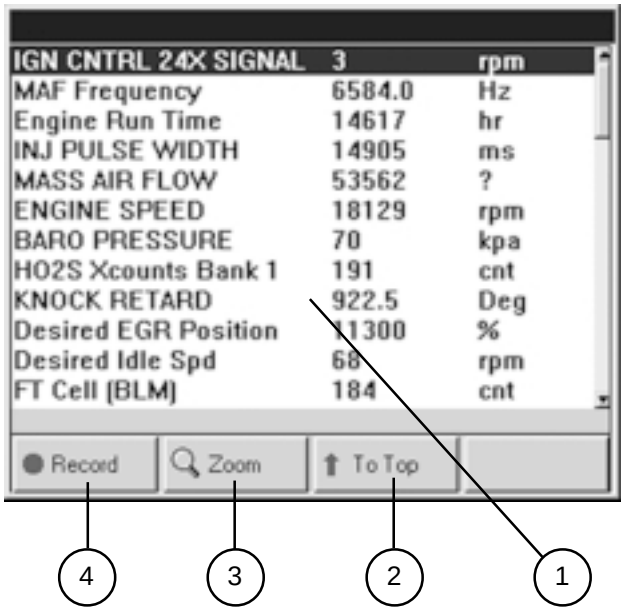
The data stream display format arranges either a pre-selected group or all of the sensors and switches detected on the vehicle in alphabetical order:

- General Motors: Select a sensor/switch group to view
- All other manufacturers: All sensors/switches are displayed.

Arrange Data Stream Sensors

To arrange the sensors, place them to the top of the viewing screen in the order you want to view them with these steps:

1. Highlight the sensor (see Figure: Sensor List)
2. Press the Function key to move the sensor to the top of the list.



1. Sensors
2. Move Sensor To Top of List
3. Zoom Magnification
4. Record

Figure: Sensor List

Data Stream Viewing Options

When viewing data stream, a number of helpful options are available that permit data review or amplification:

- **Record** data
- **"Zoom"** to increase the viewable data window
- **Graph** to visually enhance data
- **Display Configuration** to enable sensor comparison
- **Printing** to capture data to paper

Record

The Record function continuously creates a record of the sensor or switch activity. This activity can be viewed "real" time in a graph or recorded for detailed examination at a later time or as a saved file.

More about Record

Two methods are available to capture data or sensor information generated during road or stationary testing:

- Automatic Record – The sensors graphed on-screen automatically display past and present data. Press the RECORD key to capture sensor data that occurred before and after the trigger was pressed
- Diagnostic Code Trigged Recording – Automatically record sensor data that occurs before and after a trouble code is set.

Diagnostic Code Triggered Recording

The Diagnostic Code Triggered record function is always active. Whenever a diagnostic code is set in the vehicle computer, the record function will automatically capture data that occurred before and after the trouble code occured.

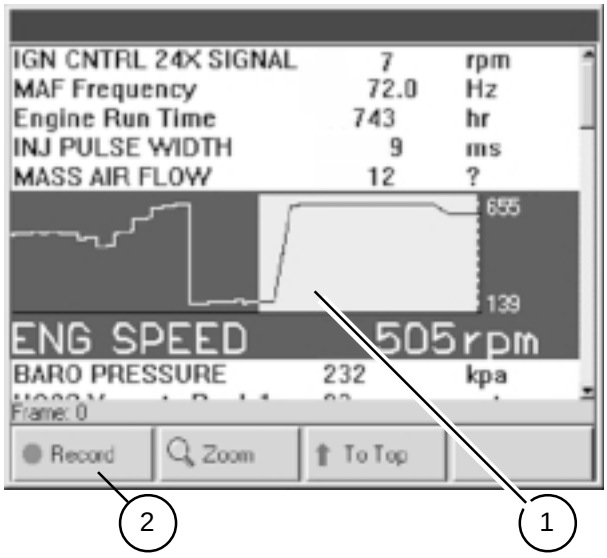
To View a Triggered Recording

1. Press the MENU and EXIT keys to return to the Application Manager Menu.
2. Select **Playback**, and then press ENTER.
3. Select the file recorded and press the left or right side of the Direction key to view each frame in sequence.

Automatic Record and Playback

To automatically record and playback data, follow these steps:

1. Press the RECORD Function key to instantly create a file (see Figure: Sensor List).
2. Optional: Continue viewing live data or press MENU and EXIT to return to the Application Manager Menu for file playback.
3. If playback is desired: Select Playback, and then press ENTER. Select the file at the top of the list to playback or save (see Figure: Events to Playback).
4. Press the left or right side of the Direction key to view each frame in sequence.



1. To view graphed sensors, highlight and press ENTER. Press the left or right side of the Direction key to view each frame in sequence.
2. Record Function Key

Figure: Sensor List

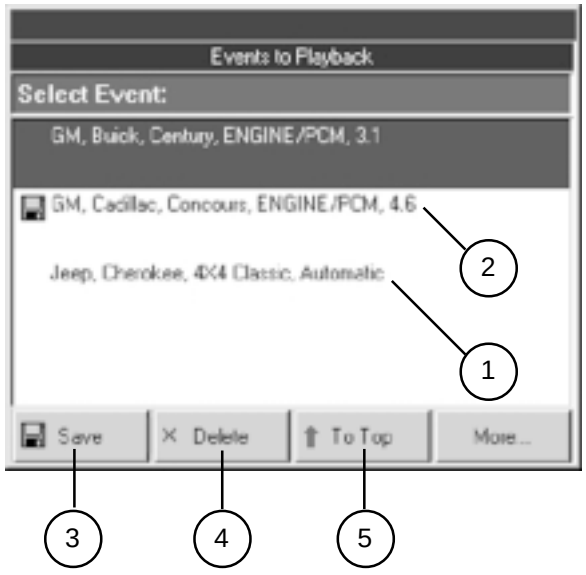
Continuous Record

Sensor data is continuously recorded. To review the most recent data captured, press the left side of the Genisys directional key. The data will be frozen instantly. Continue to press the left side of the directional key to move back frame-by-frame. Press EXIT to resume live data display

Save a Recorded File

To save a recorded file, follow these steps:

1. Press MENU and EXIT to go to the Application Manager Menu, and then select Playback.
2. Select the event file, and then press the SAVE Function key. A disc icon will appear to the left of a saved file (see Figure: Events to Playback).



1. Unsaved Event
2. Saved Event
3. Save Function
4. Delete Function
5. Move Event to Top of List

Figure: Events to Playback

Delete a Recorded File

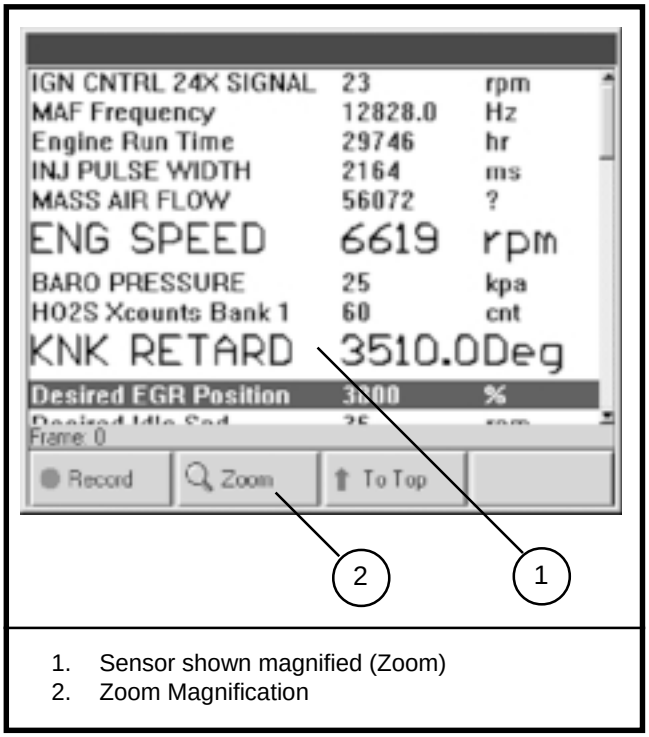
To delete a file, select the event file, and then press the DELETE Function key (see Figure: Events to Playback).

Zoom

The Zoom function magnifies the label and graph displays.

Zoom up or Down

To zoom a sensor view, select the sensor description or graph, and then press the ZOOM function key to toggle the viewed size up or down.



1. Sensor shown magnified (Zoom)
2. Zoom Magnification

Figure: Zoom Function

Print

The Print function key sends the data viewed to the attached printer. **Tip**: A print template that places up to six lines of information, such as the name of your shop, telephone number and any other information desired, can be placed at the top of each printed report. See topic: Print Template or go to the System Setup located on the Application Manager menu.

Printer Activation

To print data, press the PRINT function key.

Graph

The Graph function visually displays the sensor data in a continuously updated graph.

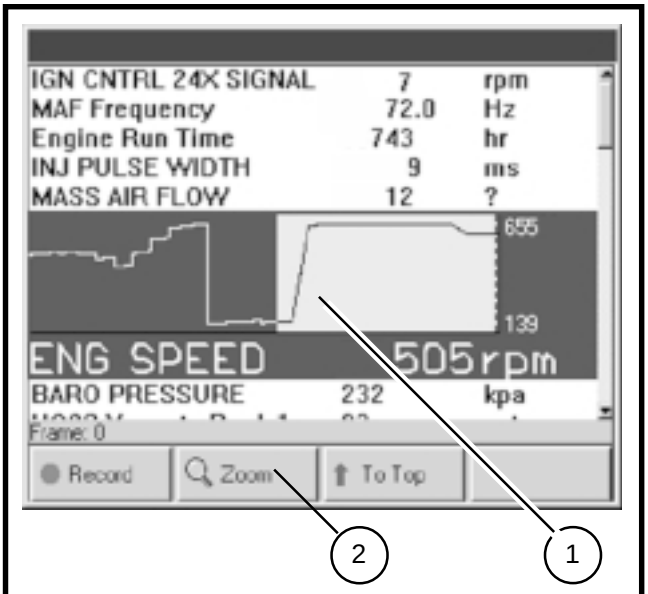
More About Graphs

The graphic display divides the sensor data into two windows: past activity window and a magnified live activity window. Within the magnified window a dotted line trigger point can be moved over the data line to freeze and magnify any part of the captured data. As data is graphed, the minimum and maximum measurements are displayed along with the actual measurement.

Graph Activation

To graph data, follow these steps:

1. Select the sensor to graph, and then press ENTER (see Figure: Graph)
2. Press ENTER to toggle the graph function on or off.
3. Press ZOOM to toggle the graph magnification on or off.



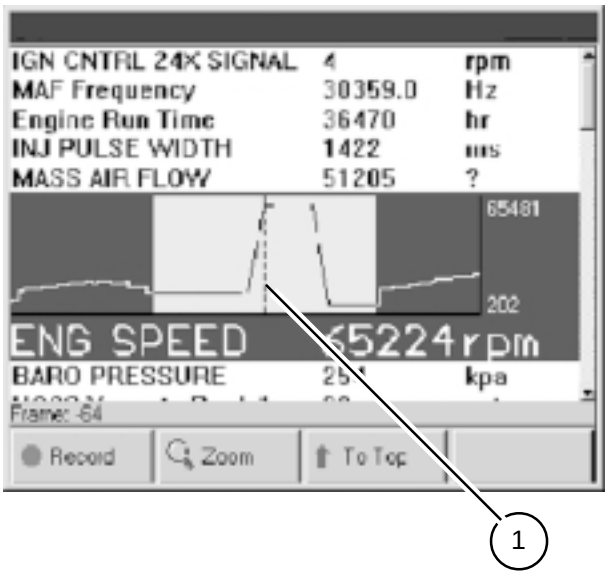
1. Sensor shown as graph
2. Zoom Magnifies graph

Figure: Graph

Graph Trigger

To view expanded graphed data before and after the trigger, follow these steps:

1. Select the graphed sensor.
2. Press the DIRECTION key left or right to move the dotted line trigger. The graphed data will be magnified and frozen in place when the trigger is moved left or right (see Figure: Graph Trigger)
3. Press EXIT to resume live data graphing.



1. Graph Trigger

Figure: Graph Trigger

Sensor Display Configuration

The display sequence of the vehicle sensors is easily re-arranged to allow the configuration of a grouping of sensors at the top of the screen for convenient side-by-side viewing.

Position Sensors

To reposition a sensor, select the sensor, and then press the TO TOP function key. Each sensor selected is positioned to the top of all remaining sensors.

Sort Sensor List

To sort sensors into diagnostic groups, press the SORT… Function key. Then select the diagnostic group preferred. The sensors that belong in the diagnostic grouping selected will be positioned to the top of the list, all remaining sensors will be sorted alphabetically and placed after the diagnostic grouping.

Diagnostic Code Information

Diagnostic testing is performed by the vehicle management system. The vehicle computer monitors the system and performs activity tests when passive tests fail. When a failure occurs, a trouble code is generated and saved in the vehicle computer. A fault must occur a specified number of times before it is considered a diagnostic code.

See Figure: Diagnostic Code Overview.

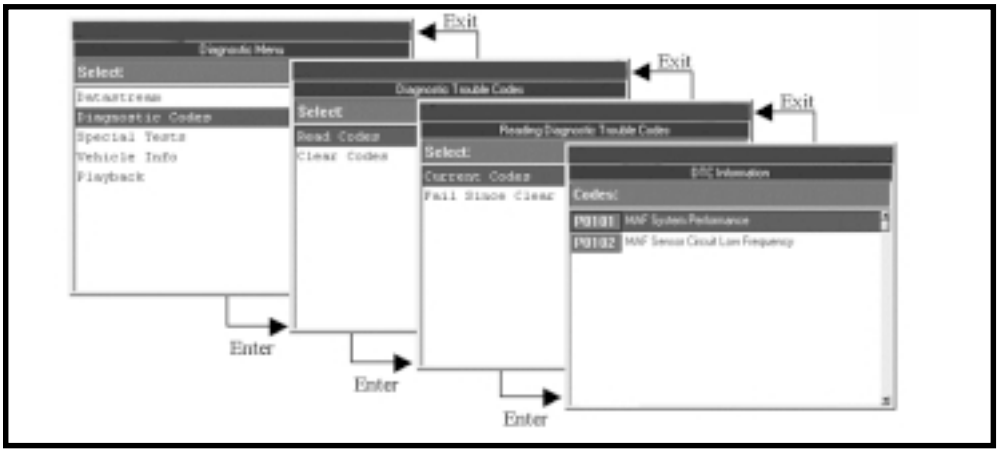


Figure: Diagnostic Code Overview

Path References

Diagnostic Codes → Read Codes

Read Current Codes

Read Codes/Current Codes are vehicle faults that have been recently recorded as a Diagnostic Code in the vehicle computer.

More About Current Codes

General Notes:

- General Motors trouble codes are listed as A, B, C or D in order of importance.
- A timer is posted on the display for systems that transmit codes slowly and require a waiting period. The timer must be allowed to expire before codes can be reviewed or printed.

Path Reference

GM/ Saturn → Diagnostic Trouble Codes → Read Codes → Current Codes
Ford/Chrysler/Jeep → Diagnostic Trouble Codes → Read Codes

Self diagnostics

The Self-Diagnostics tests are a group of diagnostic tests run by the vehicle. At the completion of the test cycle, trouble codes or errors are displayed.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics.

Pending Trouble Codes

Pending Diagnostic Trouble Codes are trouble codes that have been recently recorded in the vehicle Power Control Module but are not considered as a malfunction until the same code is recorded on two, or more, separate drive cycles. This option can be used to check recent repairs because it will show Diagnostic Trouble Codes reported after a single drive cycle. General Motors trouble codes are listed as A, B, C or D in order of importance.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep →OBD II → Diagnostic Trouble Codes → Pending Codes.

Fail Since Clear Codes

The Fail Since Clear option displays all diagnostic trouble codes captured since the last time trouble codes were cleared; this includes pending diagnostic codes. General Motors trouble codes are listed as A, B, C or D in order of importance.

Path Reference

GM/Saturn → Diagnostic Trouble Codes → Read Codes → Fail Since Clear Codes.

Clear Codes

Clearing diagnostic codes is a function that erases diagnostic codes from the vehicle computer.

How to Clear Codes

To clear codes, follow the on-screen instructions as the scan tool clears diagnostic codes from the vehicle computer. If the scan tool does not show Clear Codes as an available option, simply disconnect the battery cable from the negative battery terminal for 15 seconds, then reconnect the battery cable.
If any codes remain, select the CLEAR option once more. Make sure the ignition key is on, the engine off when erasing codes.
Tip: *Clearing trouble codes will also clear freeze frame information, PCM learned values, and the inspection/ maintenance flags. If you are in an inspection/maintenance 240 area, verify that all readiness status flags are set (see READINESS STATUS menu option) before returning the vehicle to the customer.*

GM Supplemental Inflatable Restraint (S.I.R.) Note:
Supplemental Inflatable Restraint (S.I.R.) trouble code 52 cannot be cleared from the vehicle computer memory. This trouble code indicates that the air bag has been deployed. All other codes will be cleared and the S.I.R. dash warning light will be turned off.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → Diagnostic Trouble Codes → Clear Codes.

Freeze Frame

The Freeze Frame option shows a frame of sensor data that is captured at the moment a trouble code is set in the vehicle computer.

To View Freeze Frame

If only one Powertrain Control Module (PCM) is available, the freeze frame data stream information will be displayed. If there are multiple PCMs, select the PCM from which you wish to view the data stream.

Path Reference

OBD II/GM/Saturn/Ford/Chrysler/Jeep → OBD II → Diagnostic Codes → Freeze Frame

Key-On, Engine-Off Self-Test

The Key-On, Engine-Off (KOEO) Test reads codes recorded in the vehicle computer (Current Codes or Keep Alive Codes) and codes recorded at the time of the test (On-Demand Codes or Hard Fault Codes).

More About the KOEO Self-Test

⚠ Warning:

The vehicle fans will turn on approximately 10 to 15 seconds after the test has begun. Keep hands and cables away from all fans located under the hood.

When the KOEO Self-Test is activated, the status of the sensors and switches on the vehicle are displayed. A timer will count down the time remaining for the test. Any diagnostic trouble codes located are displayed after the test is completed.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOEO Self-Test.

Key-On, Engine-Off Injector Buzz

The Injector Buzz test activates the fuel injectors which, when activated, produces a buzzing sound. The KOEO Injector Buzz Test activates all injectors first and then each injector individually.

Follow any on-screen instructions. Faults will be reported as diagnostic trouble codes after the test is completed.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOEO Injector Buzz

Key-On, Engine-Off Output State

The KOEO Output State test causes the output relays to toggle between their highest voltage and ground.

Follow any on-screen instructions. Faults will be reported as diagnostic trouble codes after the test is completed.

Activate the KOEO Output Test

To activate the KOEO Output Test, Press the accelerator pedal to toggle the output relays.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOEO Output State.

Key-On, Engine-Running Test

The Key-On, Engine-Running (KOER) Test reads codes recorded in the vehicle computer (Current Codes or Keep Alive Codes) and codes recorded with the engine running (On-Demand Codes or Hard Fault Codes).

More About the KOER Self-Test

⚠ Warning:

During the KOER test, keep hands and cables away from any fans and moving belts to help prevent bodily injury or equipment damage.

The KOER Self-Test is a timed test. Occasionally it may run beyond the time limit; if that happens, wait for 10-15 seconds for the codes to appear. If the codes do not appear, press EXIT and then rerun the KOER test.

Follow all on-screen instructions. Faults will be reported as diagnostic trouble codes.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOER Self-Test.

Key-On, Engine-Running Glow Plug Test

The Key-On, Engine-Running (KOER) Glow Plug test activates a self-test that exercises the glow plug and any related circuits.

Start the KOER Glow Plug Test

Important: The battery voltage must be maintained during this test.

1. Connect a digital voltmeter to the vehicle battery terminals to monitor the voltage.
2. Turn the air conditioning, the auxiliary power train control (RPM control) and all accessories off.
3. Place the transmission in Park or Neutral, and then start the engine.
4. Increase the engine speed, if necessary, to maintain the voltage between 11.8 and 14 volts.
5. Select the KOER Glow Plug test from the diagnostic menu.
6. Follow any on-screen instructions. Any faults detected will be reported as trouble codes.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOER Glow Plug.

Key-On, Engine-Running Cylinder Contribution Test

The KOER Cylinder Contribution Test activates a self-test that exercises each engine cylinder to determine if all cylinders are contributing equally. Any weak cylinders detected are reported as trouble codes.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOER Cylinder Contribution.

Key-On, Engine-Running Switch Test

The Key-On, Engine Running (KOEO) Switch test causes the switch relays to toggle on and off.

To Start the KOER Switch Test

1. Press the accelerator pedal and release.
2. Cycle the cruise control to ON, OFF, RESUME, SET/ ACCEL, and COAST.
3. Press the emergency brake pedal and release.
4. Press the clutch pedal or Transmission Control Switch and release.
5. Press the brake pedal firmly and release:
   - Pressing the brake pedal once after a test step will stop the test and transmit the trouble codes.
   - To go directly to the step tests, press and release the brake pedal twice after code 50 is transmitted.
6. Follow any on-screen instructions. All faults will be reported as diagnostic trouble codes.

Path Reference

Ford → Diagnostic Trouble Codes → Self-Diagnostics → KOER Switch Test.

Special Tests

The Special Tests are a group of specific sensor and system tests available for the vehicle being tested.

See Figure: Special Tests Overview.

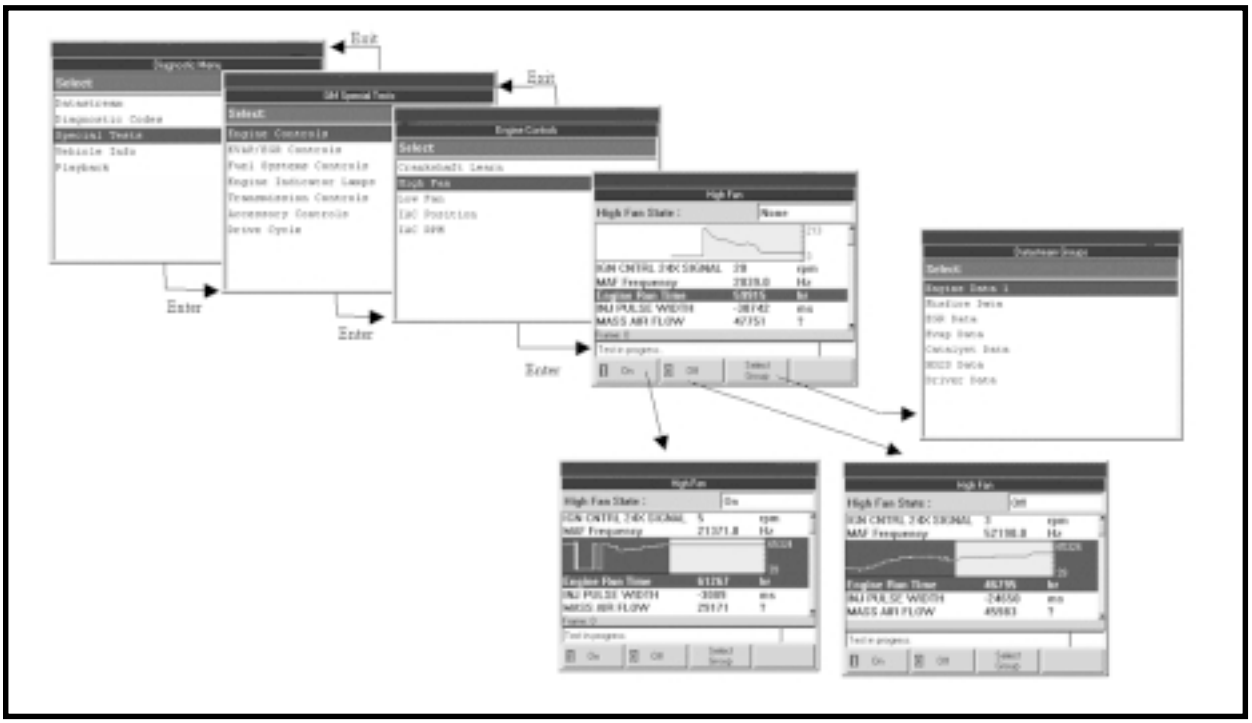


Figure: Special Test Overview

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → Special tests

Readiness Status

The Readiness Status determines the number of Power Control Modules active, and then it determines which Vehicle System Monitors have completed their tests.

More About Readiness Status

Two types of Vehicle Systems Monitors are used to test vehicle systems:

- Non-Continuous Vehicle System Monitors are a test routine that is activated once per drive cycle.
- Continuous Vehicle System Monitors are tested continuously during a drive cycle.

The Readiness Status test determines which Power Control modules are used on the vehicle, and then it determines which System Monitor tests are completed (done) or not completed (pending).

How to Activate the Readiness Status Test

To activate a Readiness test, start from the Readiness Status test screen and select the Power Control module that you want to view; some vehicles may have only one Power Control module.

All of the Continuous and Non-Continuous System Monitor tests will be displayed for the Power Control module, and labeled as either "Done" or "Pending". If a test is pending, you may refer to the *Drive Cycle* test, also located in Special Tests, to view a description of the procedure required for completion of each Non-Continuous Vehicle System Monitor test.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → OBD II → Special tests → Readiness Status

Drive Cycle

Drive Cycle describes the test steps each Vehicle System Monitor must follow when it conducts tests to determine if a system or component is operating to specifications.

More About Drive Cycle

With most Vehicle System Monitor tests, the test procedure will not run until a specified drive cycle is accomplished. Information describing the drive cycle criteria required for each Vehicle System Monitor test is made available through the Drive Cycle option.

Select Drive Cycle

To select Drive Cycle, start from the Drive Cycle Menu and select a Vehicle System Monitor Drive Cycle description. Perform the test description to activate and complete the Vehicle System Monitor test.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → OBD II → Special tests → Drive Cycle

Oxygen Sensor (O2) Test

The Oxygen Sensor (O2) option shows sensor data for each bank (driver's side and passenger side or engine front and engine rear) of O2 sensors on the vehicle.

More About Oxygen Sensor Testing

The Oxygen Sensor test will check for more than one bank of O2 sensors. If there is more than one, the voltage will be displayed for each sensor on each bank (see Figure: O2 Sensor Labels). **Important:** Warm the engine to operating temperature before testing.

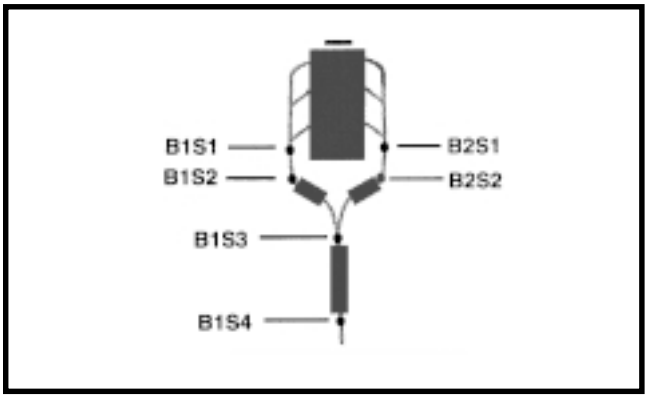


Figure: O2 Sensor Labels

Path Reference

OBD II/GM/Saturn/Ford/Chrysler/Jeep → OBD II → Special tests → O2 Tests

Component Parameters

The Component Parameters option shows the current value for components or systems that are not continuously monitored; for example, a catalyst or evaporative system.

More About Component Parameters

The Component Parameters option shows as many as three component measurements:

- current value,
- minimum or maximum specified value,
- minimum and maximum specified values.

All System Monitor tests must be complete before valid data is available for component testing. The Component Parameter test will show if the test is not complete (Pending) or if it is completed (Done). The test also shows if a reported value is out of range (+OUT+) and the unit of measurement.

Before selecting the Component Parameter test, you can select the **Readiness Status** test to determine if all Vehicle System Monitors have completed testing (Done). **Note:** A System Monitor test will not run until the vehicle has correctly completed the required System Monitor Drive Cycle (refer to **Drive Cycle** test).

Path Reference

OBD II/GM/Saturn/Ford/Chrysler/Jeep → OBD II → Special tests → Component Parameters

Output Controls

The Output Control Tests are a group of specific options designed to switch the engine computer controlled outputs on or off.

Path Reference

Ford → Special tests → Output Controls.

Turn High Speed Fan On

The HI SPEED FAN ON option will turn on all of the high fans controlled by the engine computer.

Activate the High Speed Fan Test

⚠ Warning: This test will activate fans. Be sure there are adequate clearances to avoid catching clothing, cables on a fan blade.
The High Speed Fan can be toggled on or off during this test. You may also view the reaction of the sensors and switches as you toggle the fan switch with the Function keys.

Path Reference

Ford → Special tests → Output Controls → Hi Speed Fan On.

Turn Low Speed Fan On

The LO SPEED FAN ON option will turn on all of the low speed fans controlled by the engine computer.

Activate the Low Speed Fan Test

⚠ Warning: This test will activate fans. Be sure there are adequate clearances to avoid catching clothing, cables on a fan blade.
The Low Speed Fan can be toggled on or off with the Function keys during this test. You may also view the reaction of the sensors and switches as you toggle the fan switch.

Path Reference

Ford → Special tests → Output Controls → Low Speed Fan On.

Turn All Outputs On

The ALL OUTPUTS ON option will turn on all of the output switches controlled by the engine computer.

Activate All Outputs

⚠ Warning: This test may activate the vehicle fuel pump. If you are testing pressure and volume of the fuel flow system, be sure to observe the following precautions:

- **Wear approved eye protection at all times.**
- **Release fuel system pressure before servicing the fuel system components.**
- **To avoid spilling fuel on the engine, wrap a shop towel around the pressure tap fittings when connecting or disconnecting adapters. Pressurized fuel can create a fire hazard. Dispose of the shop towel correctly.**
- **Observe normal precautions for working with flammable liquids. No smoking,open flames, electrical sparks, etc.**
- **Have a Class B fire extinguisher available while working on fuel systems.**

The Low Speed Fan can be toggled on or off with the Function keys during this test. You may also view the reaction of the sensors and switches as you toggle the fan switch.

Path Reference

Ford → Special tests → Output Controls → All Outputs On.

Evaporative System Leak Test

The Evaporative System Leak Test closes the purge solenoid and the canister vent solenoid to allow testing of a pressurized system.

To Select the Evaporative System Leak Test

Important: The ignition must be on, engine off. Pressurize the evaporative system as specified in the vehicle service manual.

The purge solenoid and the canister vent solenoid will be activated and held in the closed position for ten minutes or until the ignition key is turned off.

Path Reference

Ford → OBD II →Special tests → Device Controls → Evaporative System Leak Test.

Engine Device Controls

The ENGINE CONTROLS option permits control of engine control devices. Only those devices found on the test vehicle will be listed.

Path Reference

GM/Saturn → Special tests → Engine Controls

AIR Pump Control

The AIR Pump option activates the air pump for 30 seconds. If the air pump is operational, the closed fuel loop will go lean and react to the lean condition by enriching the fuel mixture.

Activate AIR Pump Control

The Air Pump can be toggled on or off with the Function keys during this test. You may also select a group of sensors to view as you toggle the Air pump control. The air pump will activate for 30 seconds; this test "times-out" after 60 seconds.

Path Reference

GM/Saturn → Special tests → Engine controls → AIR Pump

Crankshaft Variable Learn

The Crankshaft Learn option enables the crank angle sensing error learning algorithm, which calculates the reference pulse correction factors for the misfire diagnostic. When enough reference pulse data is captured, the crank correction factors are calculated and stored in memory.

To Enable the Crankshaft Variable Learn

⚠ WARNING: RPM ranges between 4000 to 5200 rpm are required during this test. Make sure the drive wheels are solidly blocked before Crankshaft Learn is activated. Check all fluid levels for the engine. You may not want to run the engine through this test if it is a high mileage or weak engine.

1. Pre-set the following conditions:
- the vehicle must be in park or neutral
- clear all diagnostic trouble codes
- coolant temperature must be within normal range
- crank error must not have been already learned since power control module power-up
- press and maintain pressure on the brake pedal.

Path Reference

GM/Saturn → Special tests → Engine controls → Crank-shaft Learn

Cooling Fan Control

The Cooling Fan control enables the fan relay to be on or off.

To Switch the Cooling Fan

The Fan option can be used to command fan 1 or 2 on or off. When either fan is commanded off, it will remain off if the engine coolant temperature is below what would be considered an excessive temperature that could damage an engine, or if the air conditioning is turned off.

The Fan can be toggled on or off with the Function keys during this test. You may also select a group of sensors to view as you toggle the Fan on or off.

Path Reference

GM/Saturn → Special tests → Engine controls→ Fan On/Off

High Fan Control

The High Fan control commands the High Fan on or off.

To Command the High Fan

The High Fan Control can be toggled on or off with the Function keys during this test. You may also select a group of sensors to view as you toggle the High Fan control.

Path Reference

GM/Saturn → Special tests → Engine controls→ High Fan

Low Fan Control

The Low Fan control commands the Low Fan on or off.

To Command the Low Fan:

The Low Fan Control can be toggled on or off with the Function keys during this test. You may also select a group of sensors to view as you toggle the Low Fan control.

Path Reference

GM/Saturn → Special tests → Engine controls → Low Fan

Idle Air Control Position

The Idle Air Control (IAC) Position option allows control of the position of the IAC motor when an override of the idle air adjustment is required.

To Command the Idle Air motor

1. Place the vehicle in park or neutral.
2. Select the IAC Position test from the Genisys menu.
3. Adjust the idle air motor position with the Increase or Decrease Function keys during this test. You may also select a group of sensors to view as you increase or decrease the motor position.

Path Reference

GM/Saturn → Special tests → Engine controls → IAC Position

Idle Speed Control

The Idle Speed (IAC) RPM option can be used to determine if the system used to control the idle speed (Idle Speed, Electronic Throttle Control or fuel for diesel) is functioning properly.

To Command the Idle Speed

The engine idle speed must be less than 1000 RPM if the vehicle is not in park or neutral. Idle speed may be at any level if the vehicle is in park or neutral.

Adjust the idle system with the Increase or Decrease Function keys during this test. You may also select a group of sensors to view as you increase or decrease the idle system.

Path Reference

GM/Saturn → Special tests → Engine controls → IAC RPM

Spark Retard Control

The Spark Retard Control can be used to retard the spark from the normal value set by the power control module.

To Command the Spark Retard

The spark can be retarded continuously if the engine is at idle speed. If the engine is above idle speed, the spark will be retarded for 30 seconds; then this function will be "timed-out" for 60 seconds.

Adjust the Spark Retard with the Increase or Decrease Function keys during this test. You may also select a group of sensors to view as you increase or decrease the spark retard setting.

Path Reference

GM/Saturn → Special tests → Engine controls → Spark Retard

Starter Inhibit Control

The Starter Inhibit Control will turn the Starter Inhibit solenoid on or off. The starter motor will be prevented from cranking the engine.

To Command the Starter Inhibit

Turn the Starter Inhibit solenoid on or off with the Function key. You may also select a group of sensors to view as you turn the Starter Inhibit solenoid on or off.

Path Reference

GM/Saturn → Special tests → Engine controls → Starter Inhibit

Evaporative Emissions Controls

The EVAP EGR Control option permits control of the evaporative emissions control devices. Genisys will list only those devices found on the test vehicle.

To Select EVAP /EGR Control

Select the engine device to be exercised.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls

Canister Purge Solenoid Control

The Canister Purge Solenoid Control option can be used to check the fuel vapor purge system functionality. This option overrides the control of the canister purge solenoid from 0 to 100 percent of the duty cycle.

To Command the Canister Purge Solenoid

The command function will not operate if the vacuum level is high enough to cause damage to the evaporative system. Fuel tank protection is also summoned during this command: a trouble code will be set if a failure is detected. The Canister Purge solenoid can be adjusted with the Increase/Decrease Function keys during this test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls → Canister Purge

Canister Vent Solenoid Control

The Canister Vent Solenoid Control option checks the canister vent solenoid functionality by switching the canister vent solenoid on or off.

To Switch the Canister Vent Solenoid

The switch on or off function will not operate if the vacuum level is high enough to cause damage to the evaporative system. Fuel tank protection is also summoned during this command: a trouble code will be set if a failure is detected. The Canister Vent solenoid can be adjusted with the Increase/Decrease Function keys during this test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls → Canister Vent Solenoid

Exhaust Gas Recirculation Control

The Exhaust Gas Recirculation (EGR) Control option checks digital or linear EGR device functionality by switching the EGR device on or off, or by enabling a linear setting between 0 - 100%.

To Switch or set the EGR Control

The EGR Control function “times-out” for 60 seconds after the EGR is enabled with the engine running.

The EGR control can be adjusted with the Increase/ Decrease Function keys during this test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls → EGR controls

Exhaust Gas Recirculation Vent Solenoid Control

The Exhaust Gas Recirculation (EGR) Vent Solenoid Control option checks the device functionality by switching the EGR vent solenoid on or off. The EGR vent solenoid is included on diesel applications along with the "normal" EGR modulated solenoid to provide a quicker response for shutting off EGR.

To Switch the EGR Vent Solenoid

The EGR Vent Solenoid can be adjusted with the Increase/Decrease Function keys during this test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls → EGR Vent Solenoid

Evaporative Service Bay Test

The Evaporative Service Bay Test option activates the Evaporative Service Bay Test described for the vehicle in the vehicle manufacturer's service manual.

To Activate the Evaporative Service Bay Test

Before enabling the Service Bay Test, make sure the EVAP IM flag is not already set, the engine coolant is at operating temperature and the engine is not running.

The Evaporative Service Bay setting can be adjusted with the Increase/Decrease Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → EVAP/EGR controls → Evaporative Service Test

Fuel System Controls

The Fuel System Control option permits device control of the vehicle fuel control components.

To Activate the Fuel System Controls

The Fuel System Controls can be adjusted with the Increase/Decrease Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Fuel System controls

Fuel Pump Relay

The Fuel Pump relay turns the fuel pump on or off to help determine if the fuel pump system is functioning correctly.

More About the Fuel Pump Relay

Some applications have the oil pressure switch wired in parallel with the fuel pump. The oil pressure switch will enable the fuel pump regardless of the state of the fuel pump relay if the engine oil pressure is high enough. For these applications, test the fuel pump with the engine not running.

For diesel applications, this test is not valid because the injection pump is capable of pumping fuel from the fuel tank, even if the fuel pump is off.

To Activate the Fuel Pump Test

The Fuel Pump can be turned on for two seconds when activated with a Function key. You may also select a group of sensors to view as the pump is activated.

Path Reference

GM/Saturn → Special tests → Fuel System controls → Fuel Pump Relay

Fuel Injector Disable

The Fuel Injector Disable control activates each injector (1 through 8) to an on or off state.

More About Fuel Injector Disable

Disabling the fuel flow to an injector should cause a change in speed that indicates how much torque a cylinder is contributing. **Note 1:** Diesel engine computers will compensate for lack of fuel to a cylinder so the speed will not change. An improvement in engine smoothness when the fuel is restored to the cylinder should help indicate the amount of torque a cylinder is contributing. **Note 2:** Refer also to Fuel Trim Result, an option that clears parameters that may be corrupted or skewed because of a test such as turning off a fuel injector.

To Activate the Fuel Injector Disable Test

A Fuel Injector can be turned on or off with a Function key. You may also select a group of sensors to view as the fuel injector is activated; for example, observe RPM increase/decrease on a gasoline engine to see the effect of disabling an injector.

Path Reference

GM/Saturn → Special tests → Fuel System controls → Fuel Injector (1 – 8)

Fuel Closed Loop Control

The Fuel Closed Loop allows the Fuel Control to be commanded to open loop or closed loop.

More About Fuel Closed Loop Control

When open loop is commanded the vehicle computer disables short and long term fuel trim learning. The vehicle computer then uses previously learned long term values along with open loop fuel ratio for fuel trim calculation.

To Activate the Fuel Closed Loop Control

A Fuel Closed Loop can be turned on or off with a Function key. You may also select a group of sensors for viewing as the Fuel Closed Loop is activated.

Path Reference

GM/Saturn → Special tests → Fuel System controls → Fuel Closed Loop

Fuel Trim Reset

The Fuel Trim Reset allows the fuel trim parameters to be returned to their initial values. This option clears parameters that may be corrupted or skewed because of a test such as turning off a fuel injector.

To Activate the Fuel Trim Reset

Return the Fuel Trim setting to its initial values by pressing the Reset Function key. You may also select a group of sensors for viewing as the Fuel Trim is adjusted back.

Path Reference

GM/Saturn → Special tests → Fuel System controls → Fuel Trim Reset

Diesel Controls

The Diesel Control option enables device control for the Boost Control solenoid, Engine Shutoff solenoid, Fuel Injection Timing and the Glow Plug Relay.

To Activate the Diesel Controls

The Diesel Controls can be switched on or off or they may be adjusted with the Increase/Decrease Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM → Special tests → Diesel controls

Boost Control Solenoid

The Boost Control solenoid controls a bypass or waste-gate valve that bleeds off excessive boost pressure on turbo-charged and supercharged engines.

To Activate the Boost Control Solenoid

Important: Vehicle speed must be less that 2 miles per hour before the Boost Control solenoid may be switched on or off, except for vehicles protected from over-boost with a mechanism such as fuel shutoff.

The Boost Control solenoid duty cycle can be adjusted with the Increase/Decrease Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM → Special tests → Diesel controls → Boost Control

Fuel Injection Timing Control

The Fuel Injection Timing test is used to adjust the Fuel Injection Timing when the injection pump is replaced or to check or diagnose the injection timing stepper motor and fuel system functionality.

Important: This procedure is intended as a reference procedure to use after an injection pump replacement or when injection timing needs to be checked for a 1996 - 99 GM 6.5L Diesel. Always check the manufacturer's service manual for an exact timing procedure for the vehicle.

To Adjust the Fuel Injection Timing

Before you begin:

- the requested fuel injection timing must not be greater than the normal maximum timing value (typically RPM dependent).
- locate or scribe a static timing mark as a reference on the injection pump mounting flange
- If you are replacing the PCM and the injection pump at the same time, refer to the vehicle service manual for TDC Offset procedures to be performed in addition to fuel injection timing procedures.

1. Start the engine; bring it up to normal operating temperature.
2. From the Diagnostic Function Menu, select Special Tests → Diesel Control → Fuel Injection Timing.
3. View the injection timing: It will fluctuate but should show 3.5° (average fluctuation).
   Tip: If the engine stalls, slightly (1mm equals 2°) rotate the injection pump toward the driver side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.
4. If injection timing averages 3.5°, adjustment is complete.

If injection timing is off, turn engine off. Loosen the injection pump flange nuts and slightly rotate the injection pump to increase or retard timing:

- If injection timing is above 3.5°, slightly (1mm equals 2°) rotate the injection pump toward the passenger side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.
- If injection timing is below 3.5°, slightly (1mm equals 2°) rotate the injection pump toward the driver side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.

Path Reference

GM → Special tests → Diesel controls → Fuel Injection Timing

Engine Shutoff Solenoid

The Engine Shutoff solenoid blocks the fuel flow from entering the injection pump and stops engine operation.

To Activate the Engine Shutoff Solenoid

Important: Vehicle speed must be less that 2 miles per hour before the Engine Shutoff control solenoid may be switched off.

The Engine Shutoff solenoid can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM → Special tests → Diesel controls → Engine Shutoff

Glow Plug Relay Control

The Glow Plug Relay Control will turn the glow plugs on or off.

To Activate the Glow Plug Relay Control

Important: The glow plug device control time-out period must not be active. The time-out is active for 12 seconds after a glow plug has been continuously commanded on for 3 seconds.

The Engine Shutoff solenoid can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM → Special tests → Diesel controls → Glow Plug Relay

Engine Indicator Lamps Control

The Engine Indicator Lamps Control allows the indicator lamps to be turned on or off.

To Activate the Engine Indicator Lamps Control

The Engine Indicator Lamps can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps

Alternator Lamp Control

The Alternator Lamp Control allows the alternator lamp to be turned on or off.

To Activate the Alternator Lamp Control

The Alternator Lamp Control can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Alternator Lamp

Change Oil Lamp Control

The Change Oil Lamp Control allows the Change Oil lamp to be turned on or off.

To Activate the Change Oil Lamp Control

The Change Oil Lamp can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Change Oil Lamp

Check Gauges Lamp Control

The Check Gauges Lamp Control allows the Check Gauges lamp to be turned on or off.

To Activate the Check Gauges Lamp Control

The Check Gauges Lamp can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Check Gauges Lamp

Engine Hot Lamp Control

The Engine Hot Lamp Control allows the Engine Hot lamp to be turned on or off.

To Activate the Engine Hot Lamp Control

The Engine Hot Lamp can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Engine Hot Lamp

Low Coolant Lamp Control

The Low Coolant Lamp Control allows the Low Coolant lamp to be turned on or off.

To Activate the Low Coolant Lamp Control

The Low Coolant Lamp can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Low Coolant Lamp

MIL Lamp Control

The MIL Lamp Control allows the MIL lamp to be turned on or off.

To Activate the MIL Lamp Control

The MIL Lamp Control can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → MIL Lamp Control

Oil Level Lamp Control

The Oil Level Lamp Control allows the Oil Level lamp to be turned on or off.

To Activate the Oil Level Lamp Control

The Oil Level Lamp Control can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Oil Level Lamp Control

Oil Pressure Lamp Control

The Oil Pressure Lamp Control allows the Oil Pressure lamp to be turned on or off.

To Activate the Oil Pressure Lamp Control

The Oil Pressure Lamp Control can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Oil Pressure Lamp Control

Service Throttle Soon Lamp Control

The Service Throttle Soon Lamp Control allows the Service Throttle Soon lamp to be turned on or off.

To Activate the STS Lamp Control

The Service Throttle Soon Control can be toggled on or off with the Function keys during the test. You may also select a group of sensors to view as you toggle the device setting.

Path Reference

GM/Saturn → Special tests → Engine Indicator Lamps → Service Throttle Soon Control

Transmission Controls

The Transmission Control option permits device control of the transmission components.

To Select the Transmission Controls

The Transmission Controls can be switched on or off or they may be adjusted with the Increase/Decrease Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls

Pressure Control Solenoid

The Pressure Control Solenoid permits the engagement (on) or disengagement (off) of the pressure control solenoid (may also be known as “force motor”).

To Select the Pressure Control Solenoid

If the engine is not running:

- the override current must be within calibrating limits.

If the engine is running:

- the override current must be within calibrating limits
- no transmission trouble codes must be active
- if the range is NOT park or neutral, current must be less than current determined by control algorithms
- if range is park or neutral, engine speed must be less than 1500 rpm.

The Pressure Control can be switched on or off with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Pressure Control

Reverse Inhibit Control

The Reverse Inhibit Control permits the engagement (on) or disengagement (off) of the reverse inhibit device, which prevents the selection of reverse gear on a manual transmission.

To Activate the Reverse Inhibit Control

The Reverse Inhibit Control can be switched on or off with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Reverse Inhibit Control

Torque Converter Clutch Control

The Torque Converter Clutch (TCC) control permits the engagement (on) or disengagement (off) of the torque converter clutch.

To Activate the Torque Converter Control

If the engine is not running:

- the brake pedal must not be pressed.

If the engine is running:

- brake pedal must not be pressed
- the TCC system may be commanded off (enable solenoid off or control solenoid at maximum capacity) only when NOT in the Hot Mode
- the TCC system may be commanded off (enable solenoid off or control solenoid at maximum capacity) only when off time does not exceed five minutes total
- 2 solenoid system: when the enable solenoid is commanded on, the control solenoid must be set to maximum capacity.

Note: Capacity is referred to because there are some applications that use a normally open TCC control Solenoid, and others that use a normally closed TCC solenoid.

The Torque Converter Clutch can be either switched on or off or the pressure may be increased or decreased with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Torque Converter Clutch Control

Transmission Gear Control

The Transmission Gear Control commands the transmission gear (not the individual shift solenoids). As the commanded gear changes the 1-2 "A" shift solenoid and the 2-3 "B" shift solenoid will be engaged (on) or disengaged (off).

To Activate the Transmission Gear Control

Engine not running:

- no limitations

Engine is running:

- vehicle speed must be below 65 mph,
- only sequential gearshifts are allowed,
- 3-2 downshifts or 2-1 downshifts are allowed only if engine speed is not excessive (as determined by a calculated value) for downshift,
- gear requested may not be greater than the selected PRNDL range; for example, 3rd gear is not allowed if PRNDL range is D2.

The Transmission Gear Control can be switched on or off with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Transmission Gear Control

3-2 Shift Solenoid

The 3-2 Shift permits the engagement (on) or disengagement (off) of the 3-2 Shift Solenoid.

To Activate the 3-2 Shift Solenoid

Important: If the engine is running, the transmission must be in park or neutral.

The Transmission Gear Control can be switched on or off with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → 3-2 Shift Solenoid

Preset or Reset Adaptive Parameters Control

The Preset or Reset Adaptive Parameters Control permits presetting the adaptive parameters to the values maintained by the vehicle computer for a new transmission.

To Preset or Reset Adaptive Parameters

The Adaptive Parameters Control can be reset with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Preset/Reset Adaptive Parameters Control

Skip Shift Control

The Skip Shift Control turns the solenoid on (engaged) or off (disengaged). Solenoid activation prevents selection of second and third gears on a manual transmission.

To Activate Skip Shift Control

The Skip Shift Control can be switched on or off with the Function keys during the test. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission controls → Skip Shift Control

Transmission Indicator Lamps Control

The Transmission Indicator Lamps Control allow the indicator lamps to be turned on or off.

To Select the Transmission Indicator Lamps Control

The Transmission Indicator Lamps can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission Lamps

1-4 Shift Lamp Control

The 1-4 Shift Lamp Control allows the 1-4 Shift lamp to be turned on or off.

To Activate the 1-4 Shift Lamp Control

The 1-4 Shift lamp can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission Lamps → 1 – 4 Shift Lamp

2nd Gear Start Lamp Control

The 2nd Gear Start Lamp Control allows the 2nd Gear Start lamp to be turned on or off.

To Activate the 2nd Gear Start Lamp Control

The 2nd Gear Start Lamp can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission Lamps → 2nd Gear Start Lamp

Shift Lamp Control

The Shift Lamp Control allows the Shift lamp to be turned on or off.

To Activate the Shift Lamp Control

The Shift Lamp can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission Lamps → Shift Lamp

Up-shift Lamp Control

The Up-shift Lamp Control allows the Up-shift lamp to be turned on or off.

To Activate the Up-shift Lamp Control

The Up-shift Lamp can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Transmission Lamps → Up-shift Lamp

Accessory Controls

The Accessory Controls allow accessory devices to be turned on or off or you can over-ride computer commands.

To Activate the Accessory Controls

The Accessory Controls can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Accessory Controls

Air Conditioning Clutch Relay

The Air Conditioning Clutch Control allows the Air Conditioning Clutch to be engaged (on) or disengaged (off).

To Activate the A/C Clutch Relay

The Air Conditioning Clutch can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Accessory Controls → A/C Clutch Relay

Alternator L-Terminal Control

The Alternator L-Terminal Control allows the Alternator L-Terminal to be toggled on or off.

More About the Alternator L-Terminal

The Alternator L-Terminal supplies power to the voltage regulator circuit of the alternator. If the L-terminal is turned off, the system voltage can be monitored. If the voltage is lower, the L-terminal circuit is considered good. If no drop in the ignition voltage is seen, the L-terminal may be shorted to the battery.

To Activate the Alternator L-Terminal Control

The Alternator L-Terminal can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Accessory Controls → Alternator L-Terminal

Cruise Inhibit

The Cruise Inhibit Control allows the Cruise Control function to be toggled on or off.

More About the Cruise Inhibit Control

The cruise control system is a stand-alone system, however, the vehicle computer can inhibit cruise control operation if conditions are detected that would make cruise control undesirable. Cruise Inhibit can allow or inhibit the cruise control function.

To Activate the Cruise Inhibit

The Cruise Inhibit Control can be switched on or off with the Function keys. You may also select a group of sensors to view as you adjust the device setting.

Path Reference

GM/Saturn → Special tests → Accessory Controls → Cruise Inhibit

Actuator Tests

The Actuator Test option displays the actuators available on the vehicle for the engine.

More About the Engine Actuator Test

⚠WARNING:

- **Before you perform Actuator Tests on a vehicle with a Distributorless Ignition System (DIS) ignition, disconnect all six spark plug wires at the spark plugs, then connect spark testers (OTC part # 7230) between the spark plug wire and the ground. Failure to disconnect the spark plug wires and insert spark testers could cause serious injury. Actuator Ignition Coil tests (Ignition Coil 1-6) can cause fuel in the intake manifold to ignite.**
- **Some of the Actuator Tests may activate the fuel pump. Do not unhook any fuel lines or injectors except if specifically instructed to do so by the vehicle service manual. Once testing is completed, reconnect fuel lines or injectors so fuel leaks will not cause hazardous conditions.**

To Activate the Engine Actuator Test

Select an actuator to view; the vehicle sensors will be displayed adjacent to the actuator selected. View the sensors and their reaction to the actuator action.

Path Reference

Chrysler/Jeep → Special tests → Actuator Tests

Idle Air Control

The Idle Air Control (IAC) test exercises the IAC motor by increasing and decreasing the engine Revolutions Per Minute (RPM).

To Activate the Idle Air Control Test

Press the appropriate Function key to increase or decrease the idle RPM in increments of 100 RPM (maximum 2000 RPM) or to return to base idle.

Path Reference

Chrysler/Jeep → Special tests → Idle Air Control

Enable/Disable Test

The Enable/Disable Test allows the technician to enable and disable certain actuators while the engine is running. This option is primarily used to enable and disable fuel injectors. Other controllable actuators may also be available. Actuator availability is dependent upon vehicle configuration.

To Activate the Enable/Disable Test

Select an actuator to view; the vehicle sensors will be displayed adjacent to the actuator selected. View the sensors and their reaction to the actuator action.

Path Reference

Chrysler/Jeep → Special tests → Enable/Disable Test

Other Tests

The Other Tests option assembles a menu listing a collection of additional special tests available for the vehicle under test.

Path Reference

Chrysler/Jeep → Special tests → Other Tests

Minimum Air Idle Speed

The Minimum Air Idle Speed test verifies that the fixed minimum throttle body opening is correct.

To Activate the Minimum Air Idle Speed

Once the pre-test conditions specified are satisfied, a RPM screen will show the present RPM. If the test indicates out-of-range Revolutions Per Minute (RPM), clean the throttle body and retest. Suspect a bad throttle body if the RPM is still out-of-range after cleaning. Perform the **Reset Minimum Throttle Position Sensor** test after **the Minimum Air Idle Speed** test is completed and the repair made.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Minimum Air Idle Speed

Emission Maintenance Reminder (EMR) Lamp Reset

The Emissions Maintenance Reminder Lamp Reset allows you to reset the truck and van Emissions Maintenance Reminder (EMR) dashlight (also identified as SRI light) once the proper maintenance has been performed.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Emission Maintenance Reminder Lamp Reset

Set Synchronization Mode

The Set Synchronization Mode is used to reset the timing to zero (0) degrees.

To Set the Synchronization Mode

Simply reset the distributor or the cam or crank sensor, depending upon the vehicle, to zero (0) degrees. Select the Set Synchronization Mode and the engine computer will readjust the timing to the optimum setting.

IMPORTANT: Do not press the accelerator during this timing reset mode; this will stop the synchronization process, which can be restarted if necessary.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Set Synchronization Mode

Reset Idle Air Control

The Reset Idle Air Control sets the Idle Air Control (IAC) adjustment to the factory default setting. The vehicle computer will adjust the IAC to the optimum setting. This option is used when an IAC motor has been replaced or disconnected.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Reset Idle Air Control

Reset Adaptive Fuel

The Reset Adaptive Fuel sets the adaptive fuel adjustment to the factory default setting. The vehicle computer will adjust the adaptive fuel to the optimum setting. This test is used anytime a component that affects the fuel system is replaced; reset is particularly important to be sure that the O2 sensor is in the proper range.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Reset Adaptive Fuel

Reset Minimum Throttle Position Sensor

The Reset Minimum Throttle Position Sensor resets the Throttle Position Sensor (TPS) adjustment to the factory default setting. The vehicle computer will readjust the TPS to the optimum setting.

This option is performed after the Minimum Air Idle option is used, when the Idle Air Control (IAC) is adjusted or when the TPS sensor has been replaced.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Reset Minimum Throttle Position Sensor

Reset Flexible Fuel Percent

The Reset Flexible Fuel Percent resets the flexible fuel adjustment to the factory default setting. The vehicle computer will readjust the Flex Fuel to the optimum setting.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Reset Flexible Fuel Percent

Enable Door Lock

The Enable Door Lock sets the automatic door-locking feature to the ON setting.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Enable Door Lock

Disable Door Lock

The Disable Door Lock sets the automatic door-locking feature to the OFF setting.

Path Reference

Chrysler/Jeep → Special tests → Other Tests → Disable Door Lock

Module Information

The Module Information option will query the vehicle computer and display vehicle specific information such as engine size, emissions information and other variable vehicle specifications.

Path Reference

Chrysler/Jeep → Special tests → Module Information

Vehicle Information

The Vehicle Information option provides computer identification, computer part number and any other relevant information provided by the vehicle computer about the vehicle.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → Vehicle Information

System Type

The System Type option provides vehicle and system identification information.

Path Reference

GM/Saturn/Ford/Chrysler/Jeep → Vehicle Information → System Type

Emulation

Section 3: Emulation

Emulation Overview

The Genisys emulation feature permits the use of software programs resident on OTC software cartridges; for example, OTC Pathfinder '99 and others. Through emulation the cartridge-resident programs operate and display information in the same manner as when they are used with the Enhanced Monitor 4000 unit. All commands and functions are activated and viewed through the Genisys display.

To Activate Emulation

To activate emulation of an OTC cartridge program, follow these steps:

1. Lock the Hardware Interface (HIP) attachment into the Genisys Hardware Interface Port, see topic *Hardware Interface Port*, page 6.
2. Insert the cartridge as described in *Cartridge Insert or Removal*, page 6.
3. Select **Cartridge Module** from the **Application Manager Menu**, and then select the name of the cartridge program loaded into the HIP attachment.
4. From the **on-screen keyboard**, make your menu and function choices in the same manner as menu and function choices are made on the Enhanced Monitor 4000 unit.
5. Press the Genisys direction key to move the cursor left, right,up or down to select an on-screen key, and then press ENTER

Figure: Emulation Display

Path Reference

Application Manager → Cartridge Module → Program XXX

Appendix

Appendix

Vehicle Menus

General Motors, Saturn, Ford, Chrysler, Jeep, OBD II

	General Motors	Saturn	General Motors / OBD–II	Chrysler/Jeep	Chrysler / OBD–II	Ford EEC V	Ford / OBD II	OBD–II Generic
DATA STREAM	✓	✓	✓	✓	✓	✓	✓	✓
DIAGNOSTIC CODES	✓	✓	✓	✓	✓	✓	✓	✓
KOEO SELF TEST						✓		
KOEO INJ BUZZ						✓		
KOEO OUTPUT STATE						✓		
KOER SELF TEST						✓		
KOER GLOW PLUG						✓		
KOER CYL CONTRIB.						✓		
KOER SWITCH TEST						✓		
READ CODES	✓	✓	✓	✓	✓	✓	✓	✓
CURRENT CODES	✓	✓						
FAIL SINCE CLEAR	✓	✓						
PENDING CODES			✓		✓		✓	✓
CLEAR CODES	✓	✓	✓	✓	✓	✓	✓	✓
FREEZE FRAME			✓		✓	✓	✓	✓
SPECIAL TESTS	✓	✓	✓	✓	✓	✓	✓	✓
OUTPUT CONTROLS						✓		
HI SPEED FAN ON						✓		
LO SPEED FAN ON						✓		
ALL OUTPUTS ON						✓		
DATASTREAM						✓		
ENGINE CONTROLS	✓	✓						
AIR PUMP	✓	✓						
CRANKSHAFT LEARN	✓	✓						
FAN ON/OFF	✓	✓						
HIGH FAN	✓	✓						
LOW FAN	✓	✓						
IAC POSITION	✓	✓						
IAC RPM	✓	✓						
SPARK RETARD	✓	✓						
STARTER INHIBIT	✓							
EVAP EGR CONTROL	✓	✓						
CAN PURGE SOL	✓	✓						
CAN VENT SOL	✓	✓						
EGR CONTROL	✓	✓						
EGR VENT SOL	✓	✓						
EVAP SERVICE TST	✓	✓						
FUEL SYS CONTROL	✓	✓						
FUEL PUMP RELAY	✓	✓						
FUEL INJ DISABLE	✓	✓						
FUEL CLOSED LOOP	✓	✓						
FUEL TRIM RESET	✓	✓						
DIESEL CONTROLS	✓							
BOOST CONTROL	✓							
ENGINE SHUTOFF	✓							
FUEL INJ TIMING	✓							
GLOW PLUG RELAY	✓							

	General Motors	Saturn	General Motors / OBD–II	Chrysler/Jeep	Chrysler / OBD–II	Ford EEC V	Ford / OBD II	OBD–II Generic
ENGINE IND LAMPS	✓	✓						
ALTERNATOR LAMP	✓	✓						
CHANGE OIL LAMP	✓	✓						
CHECK GAUGES LMP	✓	✓						
ENGINE HOT LAMP	✓	✓						
LOW COOLANT LAMP	✓	✓						
MIL LAMP	✓	✓						
OIL LEVEL LAMP	✓	✓						
OIL PRESSURE LAMP	✓	✓						
STS LAMP	✓	✓						
TRANSMISN CNTRLS	✓	✓						
PRESSURE CONTROL	✓	✓						
REVERSE INHIBIT	✓	✓						
TCC CONTROL	✓	✓						
TRANS GEAR	✓	✓						
3-2 SHIFT SOL	✓	✓						
P/R ADAPT PARMS	✓	✓						
SKIP SHIFT CONTROL	✓							
TRANSMISN LAMPS	✓	✓						
1-4 SHIFT LAMP	✓							
2ND GEAR STRT LAMP	✓	✓						
SHIFT LAMP	✓	✓						
UPSHIFT LAMP	✓	✓						
ACCESSORY CNTRLS	✓	✓						
A/C CLUTCH RELAY	✓	✓						
ALT L-TERMINAL	✓	✓						
CRUISE INHIBIT	✓	✓						
READINESS STATUS			✓		✓		✓	✓
DRIVE CYCLE			✓		✓		✓	
O2 TESTS			✓		✓		✓	✓
COMP PARAMETER			✓		✓		✓	✓
EVAP SYS LEAK TST							✓	
ATM TESTS				✓				
IAC TEST				✓				
MODULE INFO				✓				
OTHER TESTS				✓				
MIN AIR IDLE SPD				✓				
EMR LAMP RESET				✓				
SET SYNC MODE				✓				
RESET IAC				✓				
RESET ADAPT FUEL				✓				
SET MIN TPS				✓				
RESET FLEX FUEL %				✓				
ENABLE DOOR LOCK				✓				
DISABLE DOOR LOCK				✓				
E/D TESTS				✓				
VEHICLE INFO	✓	✓	✓	✓	✓	✓	✓	
SYSTEM TYPE	✓	✓	✓	✓	✓	✓	✓	

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