

DaimlerChrysler Corporation

DRB III™
Sprinter Diagnostics

Technician Guide

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800 Chrysler Drive

Auburn Hills, Michigan 48326-2757

Publication No. 517767

6/07/04

Printed in the United States of America

**SPRINTER
DIAGNOSTIC PROGRAM
MODEL YEAR 2003-2005**

TECHNICIAN GUIDE

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1: General Information

The Sprinter Diagnostic Program is a software program designed to query the Sprinter system on-board control module diagnostic functions. This program is resident on a PCMCIA memory card (CH9087) and requires the DRB III scan tool to provide an operating system and a means of communication to vehicle systems.

Equipment Description

DRB III

The DRB III Scan Tool is not included with the Sprinter software but is required. The DRB III is a portable computer-type vehicle analyzer that electronically accesses vehicle control system data and performs system tests by controlling the functions of many components. It can be used as a digital multimeter (DVOM), plus it utilizes a removable memory card from which programs, such as the Sprinter Diagnostics Program, can be activated.

This Technician Guide assumes you are familiar with the DRB III tool. As a quick reference, the DRB III key functions are listed.

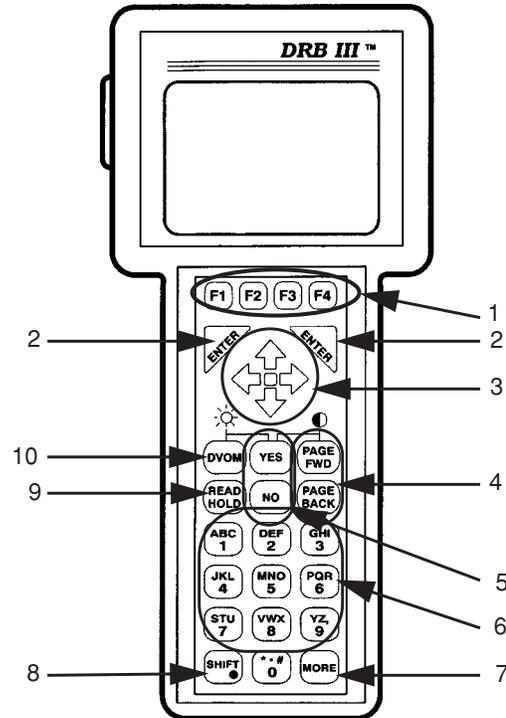


Figure 1.1: DRB III Tool

- 1 Function Keys (four) - Each key executes a command:
 - F1 - Context-sensitive Help
 - F2 - Toggle split window display
 - F3 - Toggle backlight On or Off
 - F4 - De-activate an actuator
- 2 Enter - Activate a selection.
- 3 Arrow - Move cursor or highlight in the direction of the arrow.
- 4 Page Fwd or Back - Press either key to advance or return to a screen.
- 5 Yes or No - Press either key to respond to a question.
- 6 Number Keys (0 through 9) - Enter a number or select a numbered option.
- 7 More - Move between multiple pages on a menu.
- 8 Shift - Select or Exit shifted key definitions.
- 9 Read Hold - Select or Exit "Freeze" display function.
- 10 DVOM - Select or Exit multimeter function.

Adapter Cables

The Sprinter Diagnostics requires the CH9043 adapter cable (included) and the CH7000A/7001A adapter cable (included with DRB III kit).

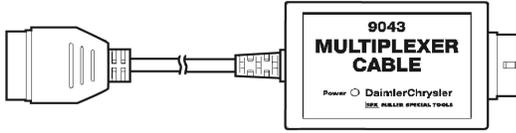


Figure 1.2: 9043 Adapter Cable

Caution:

To prevent damage to the DRB III, turn the vehicle ignition key to the “lock” (Off) position before connecting or disconnecting any Adapter Cable to or from the vehicle.

Software Description

Sprinter Software Overview

The Sprinter software lets you perform diagnostic tests. The diagnostic program is designed to query the Sprinter system on-board control module diagnostic functions with tests that are coordinated with the diagnostic procedures detailed in the vehicle service Information. The program resides on the CH9087 PCMCIA memory card and operates on the DRB III scan tool platform.

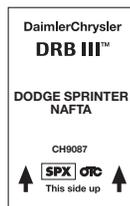


Figure 1.3: CH9087 Memory Card

Sprinter Diagnostic Program

The Sprinter Diagnostic Program contains two tool modules: System Select and Card Utilities.

- System Select accesses a number of Sprinter systems for diagnostic testing, module information, sensor data and actuator tests. See Chapter 2, System Diagnostics for detailed information.
- Card Utilities permits scan tool settings such as setting date and time, US or Metric units and key press feedback. See “[Utilities](#)” on [page 5](#) for information

The Sprinter program must be exited to use the DRB III digital multimeter (DVOM) program or the BIG (remote display) functions.

Note: The DVOM update rate may be slower when executing system tests.

Future updates for the Sprinter Diagnostic Program will be distributed through the Mopar Diagnostic System (MDS2).

Important:

Do not place the memory card near sources of magnetism. Damage to the software program may result.

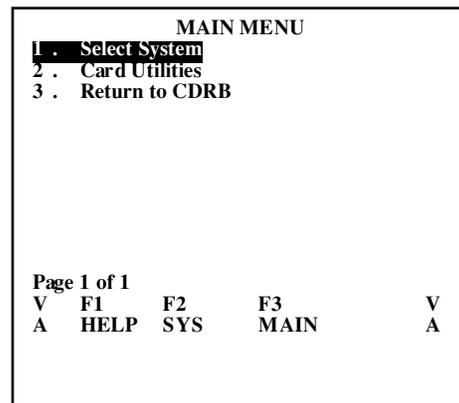


Figure 1.4: Main Menu

Function Tools

Available function tools are shown (as Icons, see [Figure 1.5](#)) at the bottom of each screen and perform as follows:

- F1/HELP is not available for the Sprinter Program.
- F2/SYS brings the user to the select system menu by pressing the F2 key.
- F3/MAIN brings the user to the system main menu by pressing the F3 key.
- F4/STOP stops an actuation if active by pressing the F4 key.

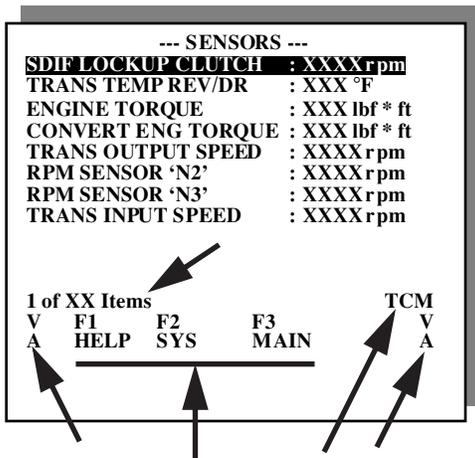


Figure 1.5: Test Pages

Icons and Text Messages

The bottom of the display screen contains up to 4 Icons symbols (three illustrated), see [Figure 1.5](#), on this page. These symbols are displayed as two separate lines of text. These symbols are indications that the designated Function button is available for selection. The Icon symbols are defined as F1/HELP, F2/SYS, F3/MAIN, and F4/STOP and are described in “[Function Tools](#)” on [page 3](#).

The Text Messages are Body Code Symbols (ex. V/A) to indicate which body vehicle has been selected for DRB III operations, System Symbol (ex. TCM) to indicate which System is viewed and Items or Pages (ex. 1 of XX Items) to indicate number of items viewable or number of pages to complete the test.

Exception Screens

Exception screens present information available when a processor error occurs. Exception screens also show instructions to follow when errors occur.

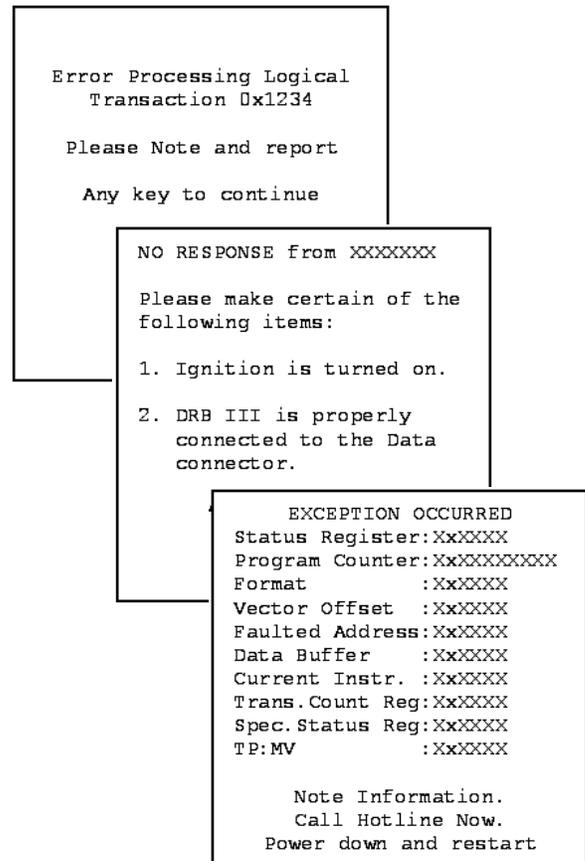


Figure 1.6: Exception Screens

Warning Screens

Warning screens alert you to conditions that may cause harm to yourself, the tool or possible loss of data.

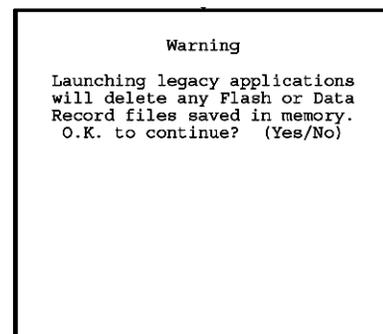


Figure 1.7: Warning

Setup

To set up the Sprinter program, you will need the DRB III, the CH7000A/7001A adapter cable (supplied in DRB III kit), the CH9087 Sprinter PCMCIA memory card and the CH9043 Adapter cable.

To set up the hardware, follow these steps:

- 1 Turn the DRB III Off. Insert the CH9087 Sprinter PCMCIA memory card into the PCMCIA card slot located on the bottom of the DRB III. Be sure the groove on the sides of the memory card are aligned with the grooves in the DRB III. Be sure the pin ports on the memory card are positioned to connect with the pins located on the inside of the DRB III PCMCIA slot.

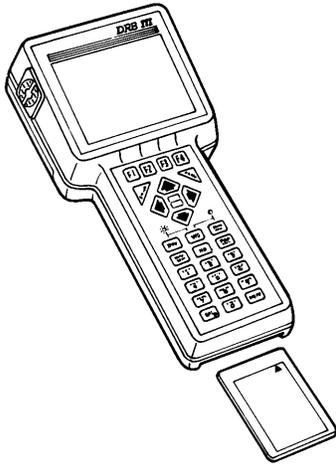


Figure 1.8: Memory Card - Insert

- 2 Make this connection: DRB III port marked "VEHICLE" > CH7000A/7001A > CH9043.

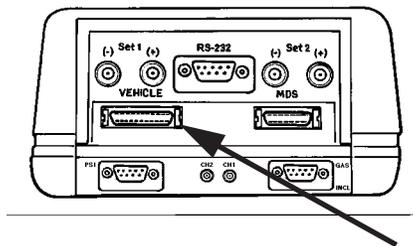


Figure 1.9: 25-Pin Port, CH7000A/7001A and CH9043

- 3 Connect the 16-pin end of the 9043 Adapter cable to the Data Link Connector located by the steering wheel under the vehicle dash.



Caution:

To prevent damage to the scan tool, turn the vehicle ignition key to the "lock" (off) position before connecting or disconnecting the scan tool.

Important:

The Sprinter Diagnostic Program is contained on the PCMCIA memory card. During program use, do not remove the card from the DRB III.

To set up the software program, follow these steps:

- 1 Power is supplied to the DRB III through the vehicle DLC. Turn On the vehicle ignition.
- 2 After a brief power On Self-Test, the DRB III main menu will appear. From the MAIN MENU, select the following menu path: **DRBIII Standalone > 1998 - 2005 Diagnostics > 2005 Sprinter**. After information screens and a Warning screen are viewed, the Sprinter Main Menu will appear.

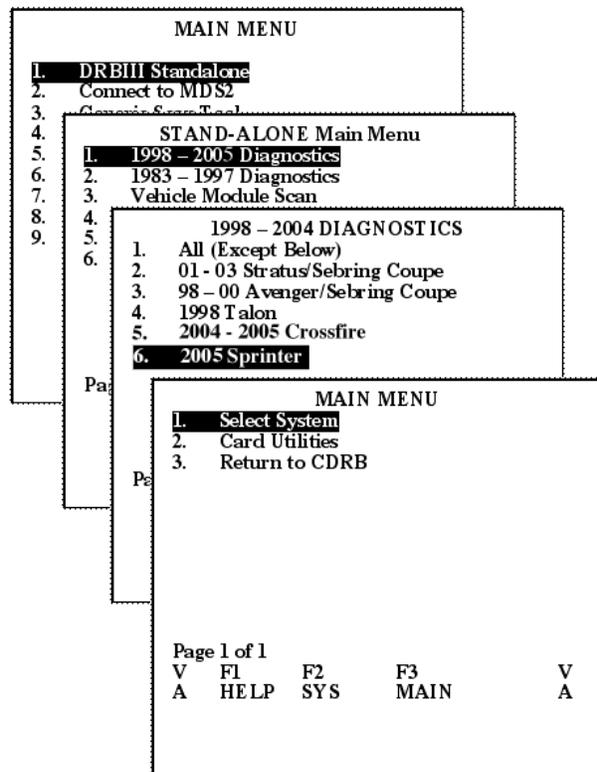


Figure 1.10: Sprinter Main Menu

3 Select one of the following:

- **Select System** - access vehicle systems for diagnostic testing, see Chapter 2 for detailed test menus.
- **Card Utilities** - access Change Options, check Software Version or check Quick Checksum. See "[Utilities](#)" on this page for details.
- **Return to CDRB** - Reboots (restart) the DRB III and then returns to the DRB III Main Menu.

Utilities

Card Utilities allows activation or de-activation of tool operation functions and feature settings. Functions and settings available are:

- **Echo on PC** - Select Off for normal use or On to update the DRB III with a PC.
- **Display Units** - Select Metric or US measurement.
- **Key LED** - Select On to view a green LED flash when a key is pressed.
- **Key Beep** - Select On to hear a beep when a key is pressed.
- **Key Repeat** - Select On to enable key repeat when the key pressed is held down.
- **Date** - Change the date.
- **Time** - Set the time.

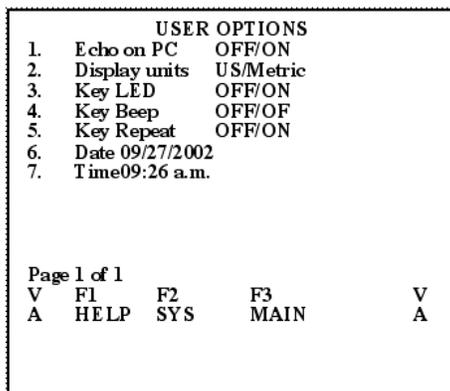


Figure 1.11: Utility User Options

Follow the directions on the page to change the settings.

To access Card Utilities, follow this path:

DRBIII Standalone > 1998 - 2005 Diagnostics > 2005 Sprinter > Card Utilities.

2: System Diagnostics

System Diagnostics provides diagnostic test modules for the Sprinter Electronic Control Units (ECU). Most of the ECUs retain Diagnostic Trouble Codes to aid with fault diagnosis, and many ECUs permit viewing and controlling sensor activity.

Test steps and usage are described in the appropriate locations in the Vehicle Service Information. Read this section to learn how to navigate the Diagnostic Menus to select a test. All tests are accessed in the same manner, therefore, one example is shown to provide steps to access any test.

Diagnostic Menus

All diagnostic menus are broken down into four basic categories:

- System Menu pages,
- Component ECU Menu pages,
- Function Menu pages,
- Sub-menu pages.

System Menu Page

The System Menu page shows the principal components on the vehicle. For the Sprinter they are:

- Engine
- Transmission
- Body
- Chassis
- Anti-lock Brakes
- Passive Restraints
- Theft Alarm
- System Monitors

To Access the System Menu pages, select **DRBIII Standalone > 1998 - 2005 Diagnostics > 2005 Sprinter > Select System.**

Press the Up or Down Arrow key to highlight a principal component selection and then press ENTER. Selecting any System Menu Item proceeds to the Component ECU Menu page.

Note: The screen examples illustrated are intended as generic illustrations only. The actual screens displayed on the DRB III will vary. The intent of this Information is to show "in general" what to expect, not to show exactly what will be seen for the various diagnostic test modules

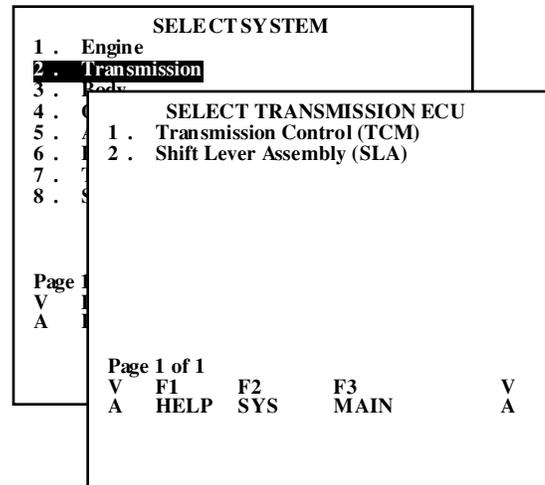


Figure 2.12: System Menu Page

Component ECU Menu Pages The Component ECU Menu page shows the ECUs that are associated within that component system. Selecting any ECU Menu Item proceeds to the Function Menu page.

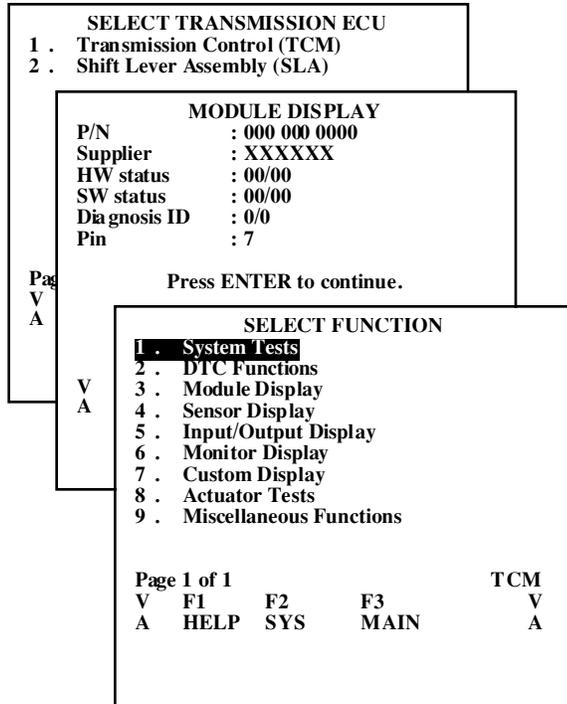


Figure 2.13: Component ECU Menu Page

Note: If there is only one ECU for a System, the program will show status information (labeled Module Display) about the ECU and then go directly to Select Function.

Function Menu Page The Function Menu page contains nine different functions:

- **System Tests**—Controls the operation and flow of the system under test. These tests may or may not require user interaction. For details see “[ECM Menu Item 1: System Tests](#)” on [page 10](#)
- **DTC Functions**—Accesses Current DTCs, Stored DTCs, Clear DTCs, and view a list of All DTCs for the selected ECU. For details see “[ECM Menu Item 2: DTC Functions](#)” on [page 11](#)
- **Module Display**—Reviews the following items: the Part Number, the Supplier, both Hardware and Software dates, Diagnosis ID, and DLC PIN number used for communications. For details see “[ECM Menu Item 3: Module Display](#)” on [page 12](#)
- **Sensor Display**—Can review the current state of the ECU’s sensors. A sensor is defined as something that has a range of values. “[ECM Menu Item 4: Sensor Display](#)” on [page 12](#)
- **Input/Output Display**—Can review the current state of the ECU’s Input/Output (I/O) components. I/O is defined as having multiple values such as, ON/OFF, or YES/NO, or P (Park), N (Neutral), D (Drive), R (Reverse), +, -, etc. For details see “[ECM Menu Item 5: Input / Output Display](#)” on [page 12](#)
- **Monitor Display**—Can review a specific collection of Sensors and/or I/Os. These display item lists typically have been developed with a common focus, such as RPM or No Start or Speed Control. For details see “[ECM Menu Item 6: Monitor Display](#)” on [page 12](#)
- **Custom Display**—Can establish and/or review a previously established collection of Sensors and/or I/Os in the fashion of a Monitor Display. For details see “[ECM Menu Item 7: Custom Display](#)” on [page 12](#)
- **Actuator Tests**—Selects an actuator for a cyclic operation. Actuator tests are designed to have no user interaction other than the starting and stopping of the test. The cyclic rate for the actuators is around a 2-second interval. For details see “[ECM Menu Item 8: Actuator Tests](#)” on [page 13](#)
- **Miscellaneous Functions**—Are processes that when executed can change the vehicles configuration or parameters. Examples include module replacement and pinion factor as well as other forms of parameterization. Also, this menu category is used as a catch all for processes that do not fit any other category. For details see “[ECM Menu Item 9: Miscellaneous Functions](#)” on [page 14](#)

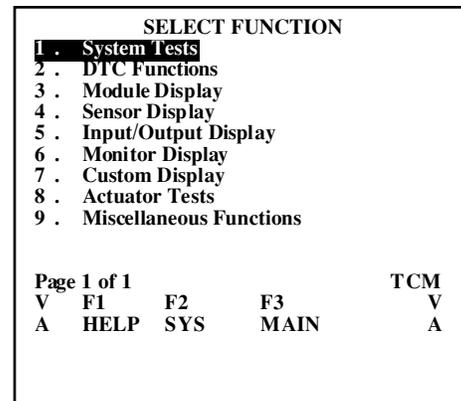


Figure 2.14: Function Menu Page

Selecting any Function Menu Item proceeds to the System Test Menu page. If there is no defined Function available, The location for the Function will display ***NOT AVAILABLE.***

Sub-menu Pages Defined as menu pages for a Function. Select a System Test to proceed to the Sub-menu Pages of test results. The number of pages of System Tests available is shown in the lower left of the page.

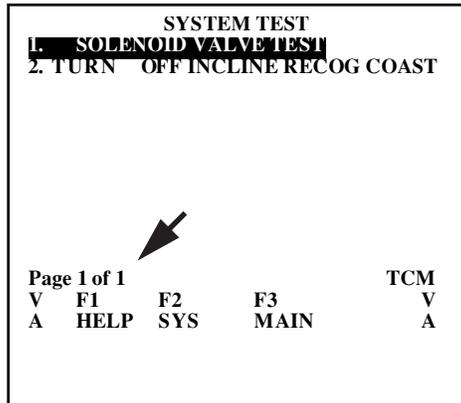


Figure 2.15: Sub-menu Page

Test pages Defined as single or multiple pages of a System Test. The number of steps or items available to view is shown in the lower left of the page.

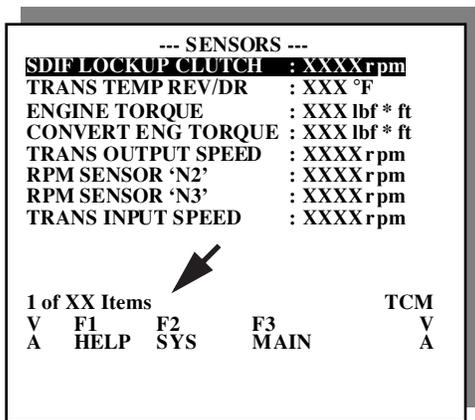


Figure 2.16: Test Page

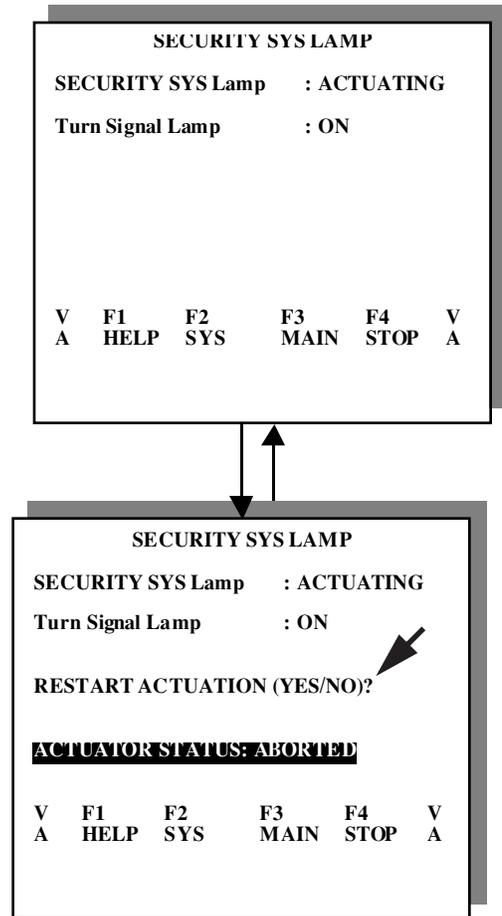


Figure 2.17: Test pages

Follow the on-page directions or listed actions (YES/NO, etc.) available for each test. Press F4 to stop any test.

Important:

- For safety and operational steps, view the related diagnostic precondition procedures detailed in the Vehicle Service Information before performing diagnostic tests,.

System Test Example

This example shows the pages of the Engine System. The intent is to illustrate “in general” what to expect for any of the System tests.

System Tests

Select the System Test. In this example, Engine is selected.

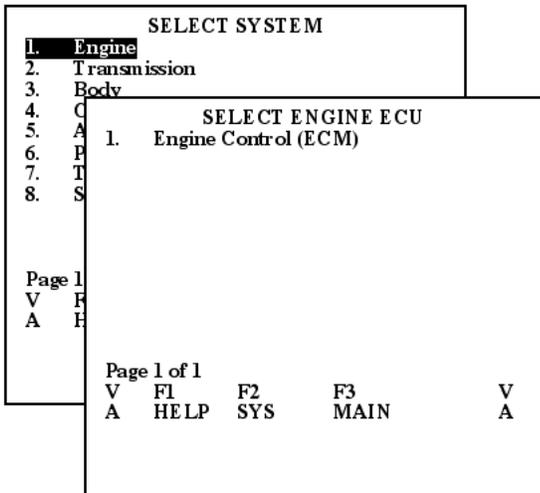


Figure 2.18: Select Engine

The Select Engine ECU page in [Figure 2.18](#) is shown for illustration only. If there is a single ECU, the Select ECU page is bypassed. There is only one ECU for Engine so the actual program shows status information about the ECU and then goes directly to Select Function, see [Figure 2.19](#). If there were multiple ECUs to choose from, the Select ECU page would be shown

Engine Control Module (ECM)

Select the ECM menu item to perform a diagnostic check and to provide a Module Display page with status information about the ECU. Press the ENTER KEY to transition to the ECM Select Function menu page.

Note: There is only one ECU for Engine, the program shows status information about the ECU and then goes directly to Select Function.

Note: If there is currently no defined function the menu item will display “NOT AVAILABLE”.

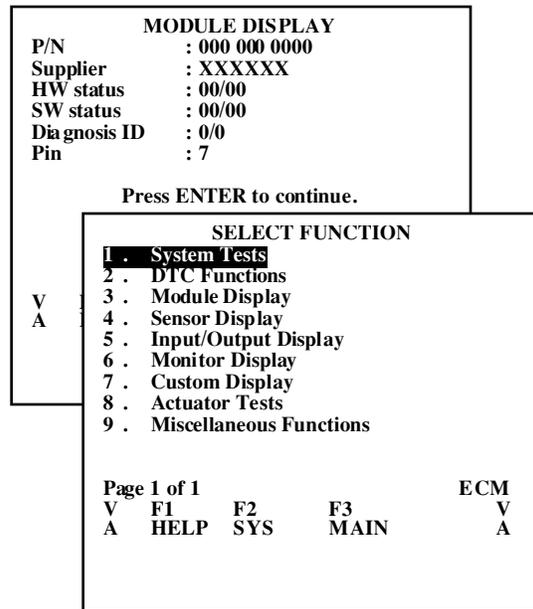


Figure 2.19: Select Engine Function

ECM Menu Item 1: System Tests

Selecting the System Tests menu item displays the System Tests available for the ECM. Refer to Service Information and follow the “on screen” directions.

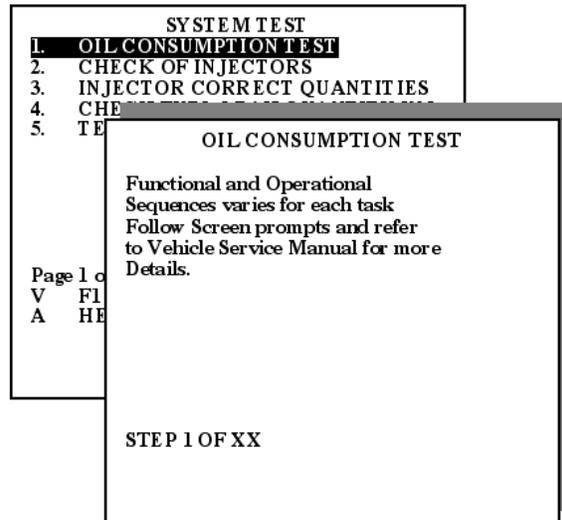


Figure 2.20: ECM System Tests

In this example, the Oil Consumption System test is selected. The Test Page appearance and the Functional and Operational Sequences varies for each task. Follow the Screen prompts and refer to the Vehicle Service Information.

ECM Menu Item 2: DTC Functions

Selecting the DTCs menu item provides the user with the following DTC functions:

- 1 Read current DTCs
 - a. Press ENTER to view Freeze Frame DTCs.
- 2 Read stored DTCs
 - a. Press ENTER to view Freeze Frame DTCs.

3 Clear all current and stored DTC codes.

4 List all Fault codes for the selected ECU module.

Notice the Test Function (DTC Functions, Current ECM DTCs and etc.) is shown at the top of the Test page.

The Functional and Operational Sequences varies for each task, see [Figure 2.21](#). Follow the Screen prompts and refer to the Vehicle Service Information.

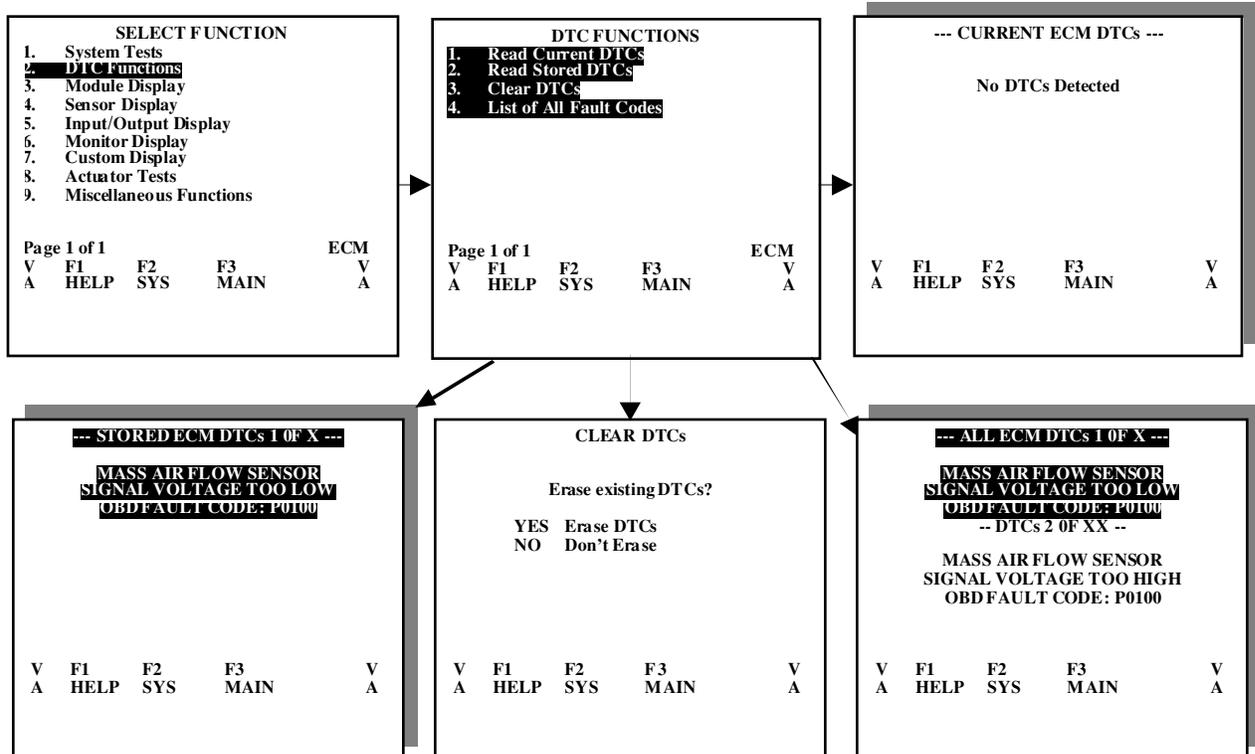


Figure 2.21: ECM DTC Functions

ECM Menu Item 3: Module Display

Selecting the Module Display menu item returns the general information about the selected ECU module

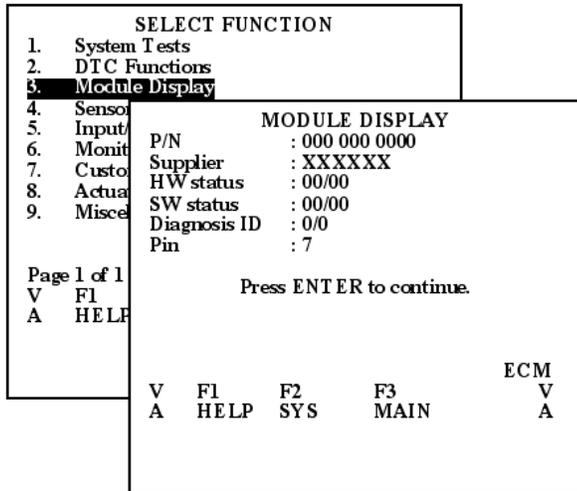


Figure 2.22: ECM Module Display

Follow the Screen prompts and refer to the Vehicle Service Information.

ECM Menu Item 4: Sensor Display

Selecting the Sensor Display menu item provides a list of sensors within the selected ECU, in addition to their current status.

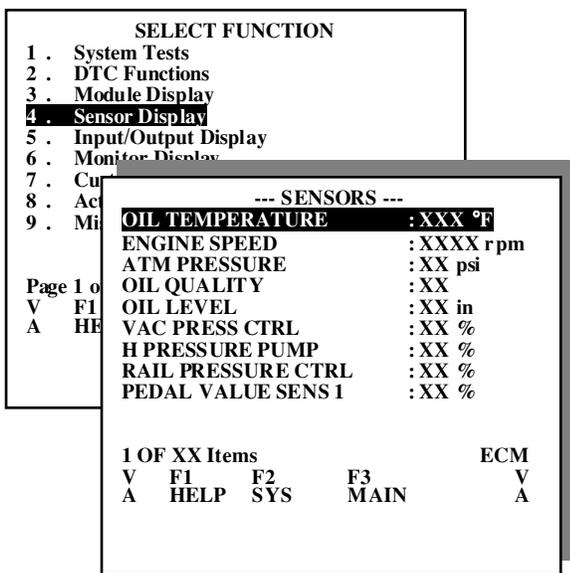


Figure 2.23: ECM Sensor Display

The Functional and Operational Sequences varies for each task. Follow the Screen prompts and refer to the Vehicle Service Information.

ECM Menu Item 5: Input / Output Display

Selecting the Input/Output Display menu item provides a list of inputs and outputs in addition to their current status

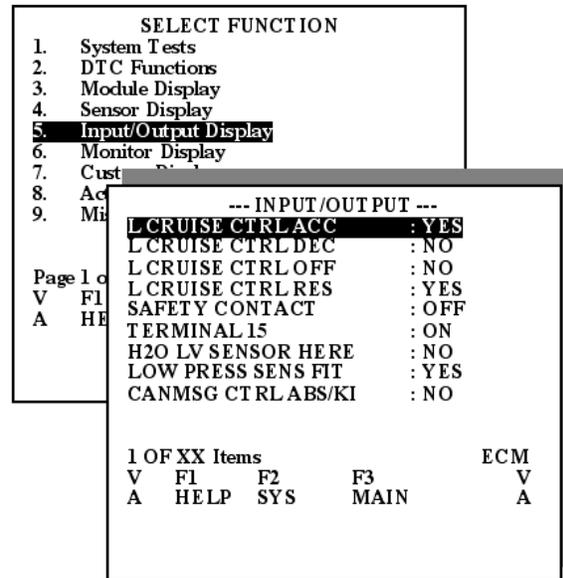


Figure 2.24: ECM Input / Output

The Functional and Operational Sequences varies for each task. Follow the Screen prompts and refer to the Vehicle Service Information.

ECM Menu Item 6: Monitor Display

Monitor Display will be implemented in a future release, there is currently no defined Monitor Display; the menu item will display “NOT AVAILABLE”.

ECM Menu Item 7: Custom Display

The Custom Display will be implemented in a future release, there is currently no defined Custom Display; the menu item will display “NOT AVAILABLE”.

ECM Menu Item 8: Actuator Tests

Selecting the Actuator Tests menu item displays a list of actuators to be tested. Actuator tests are automatically run every few seconds and do not require any user interaction.

Important:

- Any testing preconditions specified in the Vehicle Service Information or on the test screen must be adhered to before testing begins or the tests may be unreliable.

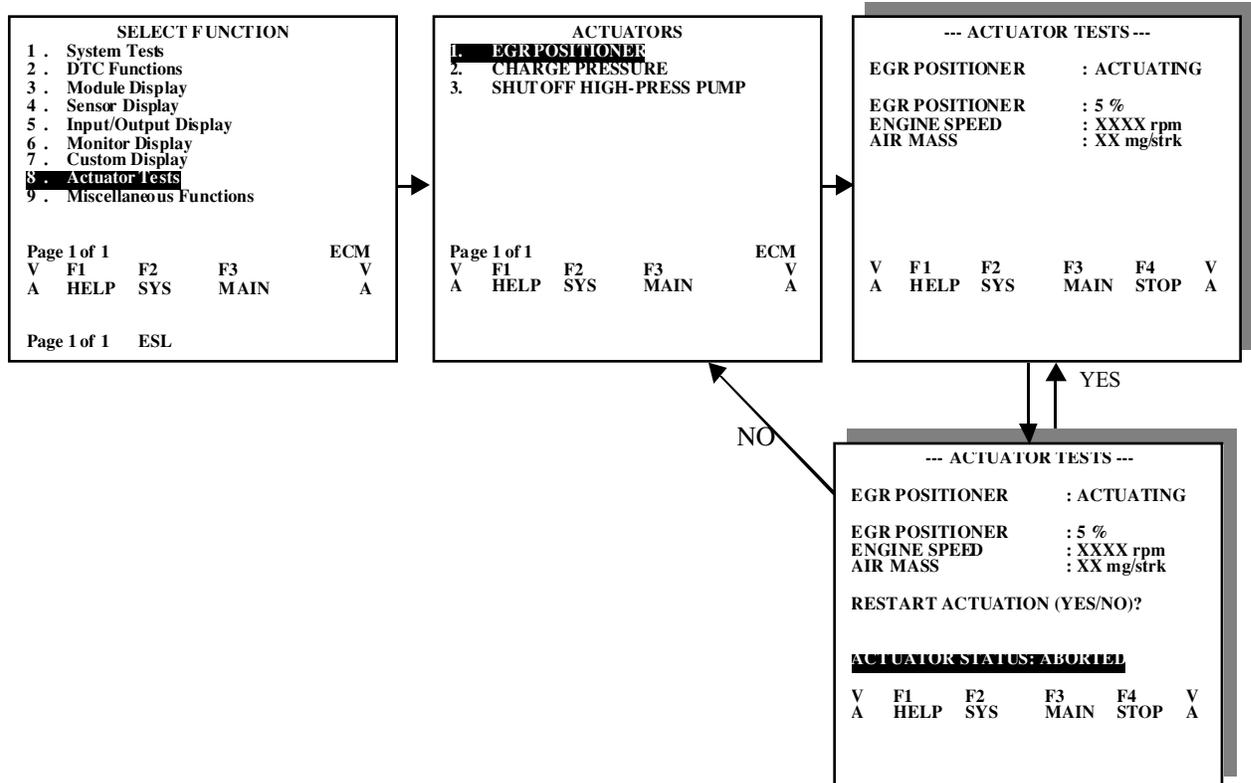


Figure 2.25: ECM Actuator

Note: The screen examples illustrated are intended as generic illustrations only. The actual screens displayed on the DRB III will vary.

The Functional and Operational Sequences varies for each task. Follow the Screen prompts and refer to the Vehicle Service Information.

ECM Menu Item 9: Miscellaneous Functions

The Miscellaneous Functions menu controls a number of variable items. The items may or may not require user interaction. Refer to the Vehicle Service Information and follow the “on-screen” directions.

Refer also to “[Module Replacement](#)” on [page 15](#).

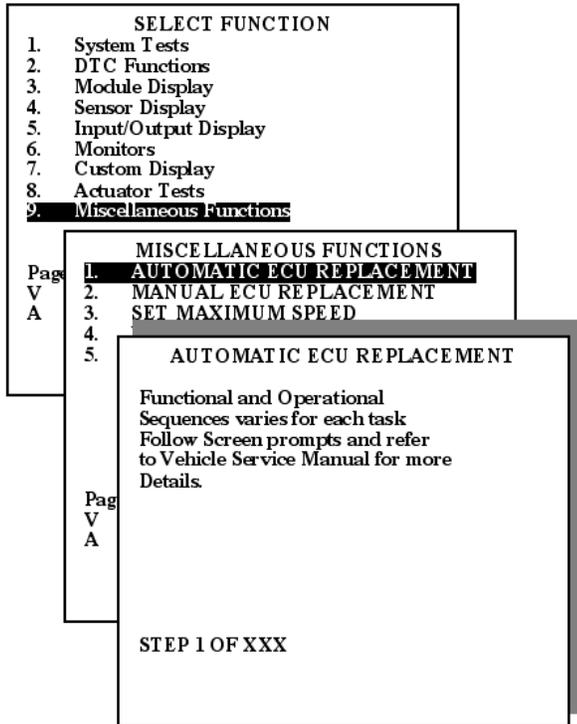


Figure 2.26: ECM Miscellaneous

Appendix A: Helpful Hints

Important:

- If the DRB III cannot communicate to an ECU (in particular the SKREEM and TCM), disconnect the negative battery terminal for one minute. Some ECU's have a power save mode during which they will NOT communicate with the DRB III and the ECU. The ECU may not successfully recover from the power save mode until battery power is removed.
-

- Connect a battery charger to the vehicle during any module replacement or during diagnostics.
-

- During module replacement diagnostic trouble codes (DTC) may be set in other modules. Perform a Module Scan after replacing a module and clear all DTCs.
-

Module Replacement

The module replacement functions, **Auto Replacement** and **Service Replacement** are used to transfer information from the module being replaced to the new module.

Each method will install the programming for an ECU module.

1-Module Auto Replacement:

The **Module Auto Replacement** may be used when three criteria can be met:

- The controllers have **identical** part numbers.
- The current controller communicates with the DRB III.
- The VIN code read by the DRB III matches the vehicle VIN code.

The steps for **Module Auto Replacement** are:

- 1 Upload information from old module
- 2 Install new module
- 3 Download information to new module

2-Module Service Replacement:

If any of the conditions for Module Auto Replacement (see previous subject) cannot be met, then **Module Service Replacement** must be used.

The Module Service Replacement enables manual entry of the VIN Coding String, SCN and the Checksum/Check Digits that matches the code entered. Module Service Replacement downloads data acquired from the DRB III, TechTOOLS or STAR Hotline. The steps are:

- 1 Install new module
 - 2 Download information from DRB III
- or
- 1 Install new module
 - 2 Download information from DRB III due to unknown part number failure.
 - 3 Go to TechTools or call STAR Hotline for SCN coding information.
 - 4 Manually enter Information printed from TechTools or coding information received from the STAR Hotline must be manually entered into the DRB III. Use the SCN coding form on [page 26](#) to record STAR information.

System - Engine (PCM).

Review and follow the steps illustrated to replace an Engine module.

Note: The ECM/PCM will lock down to the vehicle automatically after a number of ignition cycles.

Note: VIN 7th and 8th digit: 44=CARB 50 states. P/Ns are A647 153 15 79 and 25 79 and 27 79.

Note: VIN 7th and 8th digit: 43=45 state engine. P/Ns are A647 153 10 79 and 24 79 and 26 79.

Note: More ECM P/Ns may be released in the future.

Proceed as follows if the module you are replacing meets all three criteria listed for **“1-Module Auto Replacement:”** on [page 15](#).

1 Select **Module Auto Replacement** from the **Miscellaneous Functions** Menu.

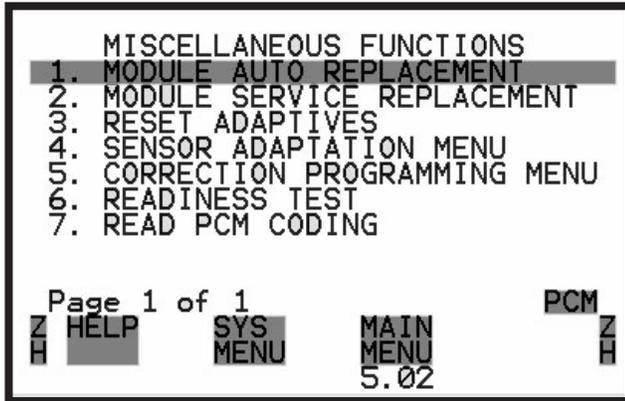


Figure 3.27: Automatic Replacement

2 Carefully follow the instructions on the screens that appear in sequence. Press **Y (Yes)** or **N (No)** to answer the on-screen questions.

3 Check the VIN number on the vehicle and on the Module Service Replacement screen, see [Figure 3.28](#).

- Press **“Y”** to continue if the VIN is the same.
- Press **“N”** if the VIN is different. If you pressed N, the Miscellaneous Functions screen will return, select

Module Service Replacement to continue, see **“Module Service Replacement”** on [page 16](#).

Important:

- **If you start Auto Replacement, and the DRB III detects that criteria is not met, it will automatically boot you into the Service Replacement process. Be careful at this point. You must install the new module now because the DRB III has detected that the information cannot be transferred from the old module to the new one.**

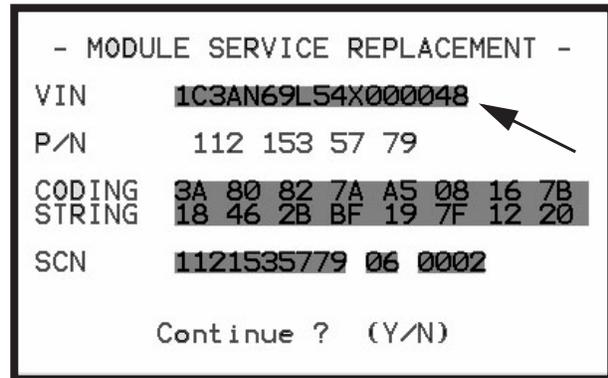


Figure 3.28: Check VIN Screen

4 Again, follow the on-screen instructions until the message “Module Replacement Successful” appears. Press ENTER to end the program and be returned to the Miscellaneous Functions screen.

Module Service Replacement

The Module Service Replacement permits manual entry of the coding if the VIN displayed on-screen doesn't match the VIN on the vehicle.

Important:

- **Carefully enter the VIN. The PCM or TCM modules can be programmed successfully with an incorrect VIN entry. Select Module Service Replacement from the Miscellaneous Functions Menu.**

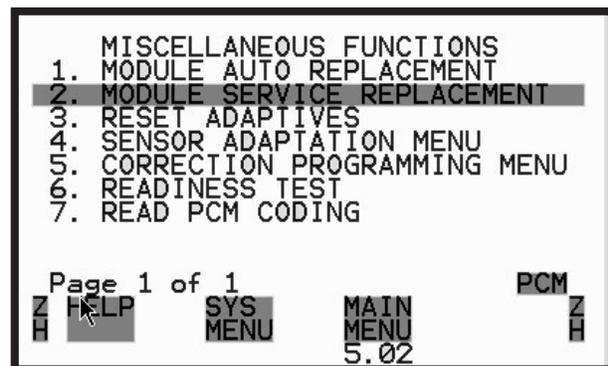


Figure 3.29: Module Service Replacement

5 Follow instructions on the screens that appear next. Press **Y (Yes)** or **N (No)** to answer the on-screen questions.

6 Carefully enter the vehicle VIN number when the following screen appears.

```

- MODULE SERVICE REPLACEMENT -
Enter VIN:

1C3AN69L54X000048

Lt-Rt Arrow moves cursor
Up-Down Arrow for letter/number

Press Enter when complete

```

Figure 3.30: VIN Entry

7 The application will compare the VIN entry to the VIN coded into the software. Because there was no match the application will direct you through the steps necessary to receive code from STAR Center or TechCONNECT. The code received must be entered manually. See [Figure 3.31](#).

```

- MODULE SERVICE REPLACEMENT -
Go to STAR CENTER and/or
TECH CONNECT
Select: eFiles then
Select: Crossfire
Open: Controller Coding

Write Down Coding String,
SCN, and Check Digit info

Press ENTER To Continue

```

Figure 3.31: STAR Center or TechCONNECT

8 Enter the VIN, press **ENTER** to continue.

```

- MODULE SERVICE REPLACEMENT -
Enter VIN:
1C3AN69L54X000048

Lt-Rt Arrow moves cursor
Up-Down Arrow for letter/number

Press Enter when complete

```

Figure 3.32: Manual Entry Screen, VIN

Note: If a mistake is made press **PAGE BACK** to exit the screen and begin again.

9 Enter the Coding String (PN), press **ENTER** to continue.

```

- MODULE SERVICE REPLACEMENT -
Enter PN::
1121532779

Lt-Rt Arrow moves cursor
Up-Down Arrow for letter/number

Press Enter when complete

```

Figure 3.33: Manual Entry Screen, PN

10 Enter the SCN, press **ENTER** to continue.

```

- MODULE SERVICE REPLACEMENT -
Enter SCN:
1121533279 06 0001

Lt-Rt Arrow moves cursor
Up-Down Arrow for letter/number

Press Enter when complete

```

Figure 3.34: Manual Entry Screen, SCN

11 Enter the Checksum/Check Digits, press **ENTER** to continue.

```

- MODULE SERVICE REPLACEMENT -
Enter CHECK DIGITs:
0 21 5e d3

Lt-Rt Arrow moves cursor
Up-Down Arrow for letter/number

Press Enter when complete

```

Figure 3.35: Manual Entry Screen, Checksum/Check Digit

12 Follow the instructions for each screen until the process is completed.

System - Transmission (TCM)

Review and follow the steps illustrated to replace a transmission module. When resetting adaptations, a Module Service Replacement to configure the vehicle configuration number, axle ratio and A/C is required.

Proceed as follows if the module you are replacing meets all three criteria listed for "[1-Module Auto Replacement](#):" on [page 15](#),

1 Select **Module Auto Replacement** from the **Miscellaneous Functions** Menu.

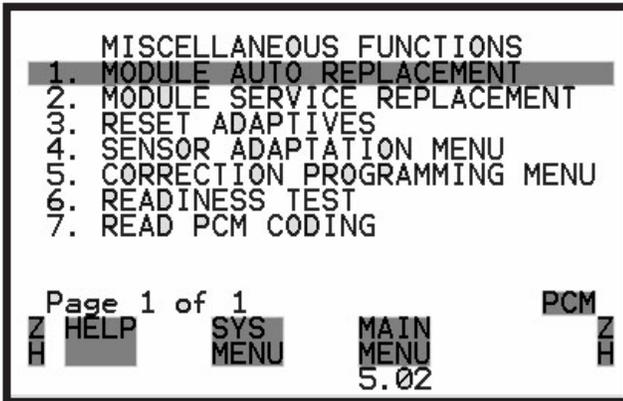


Figure 3.36: Automatic Replacement

2 Carefully follow the instructions on the screens that appear in sequence. Press **Y (Yes)** or **N (No)** to answer the on-screen questions.

3 Check the VIN number on the vehicle and on the Module Service Replacement screen, see [Figure 3.37](#).

Important:

- **Verify that the VIN is correct before proceeding. An incorrect VIN can be written to the TCM but it can also be corrected since the TCM does not lock down on the vehicle.**

- Press "**Y**" to continue if the VIN is the same.
- Press "**N**" if the VIN is different. If you pressed N, the Miscellaneous Functions screen will return, select **Module Service Replacement** to continue, see "[Module Service Replacement](#)" on [page 18](#).

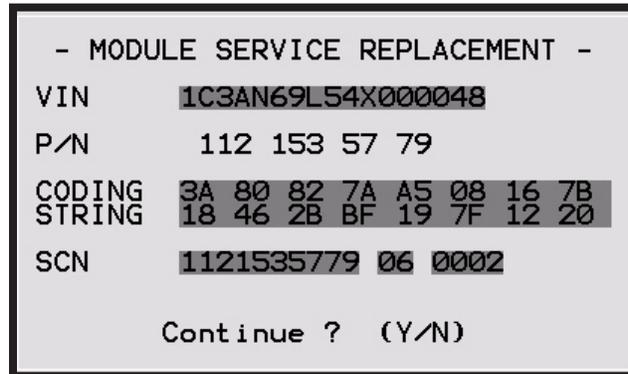


Figure 3.37: Check VIN

Important:

- If you start Auto Replacement, and the DRB III detects that criteria is not met, it will automatically boot you into the Service Replacement mode. *Be careful at this point.* You must install the new module now because the DRB III has detected that the information cannot be transferred from the old module to the new one.

4 Again, follow the on-screen instructions until the message "Module Replacement Successful" appears. Press ENTER to end the program and be returned to the Miscellaneous Functions screen.

Module Service Replacement

The Module Service Replacement permits manual entry of the coding if the VIN displayed on-screen doesn't match the VIN on the vehicle.

1 Select **Module Service Replacement** from the **Miscellaneous Functions** Menu.

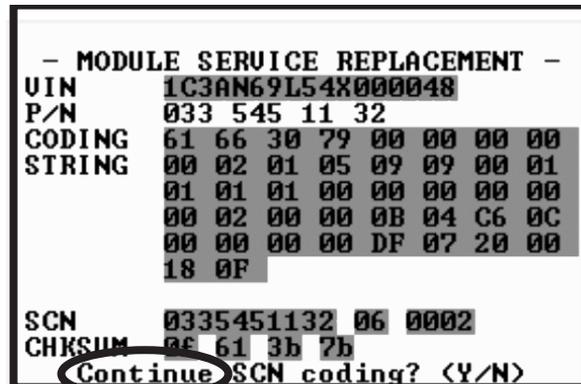


Figure 3.38: "Continue" SCN coding

The CONTINUE SCN appears after SCN data is manually entered. Verify that the data entered is correct, then:

- Press **Y (Yes)** to code the module.
- Press **N (No)** to exit the replacement procedure.
- Press **PAGE BACK** to exit.

Important:

- **If the DRB III cannot communicate to an ECU (in particular the SKREEM and TCM), disconnect the negative battery terminal for one minute. Some ECU's have a power save mode during which they will NOT communicate with the DRB III and the ECU. Sometimes the DRB III does not successfully recover from the power save mode until battery power is removed.**
-

Instrument Cluster (IC)

The Module Auto Replacement option uploads the IC parameters from the original module. It stores the parameters to the DRB III, then downloads the parameters to the new IC.

There are different parameter settings based on the braking system (ESP or ABS) installed on the vehicle. The DRB III will auto-detect the system and then display the system parameters. If the braking system cannot be determined, the correct system will need to be manually selected.

The mileage will not be transferred. Manually enter all seven digits for the mileage, use leading zeros (0) if necessary.

The IC parameters must be set, and the IC must be locked before the mileage will appear on the odometer.

The parameters can be cannot be changed after the IC is locked. Select **View Parameters** to see the parameters locked down.

Important:

- **The tonnage, wheelbase, steering and the tire size must match in the IC and the ESP modules. A trouble code will set if they do not match.**
 - **Use Module Service Replacement under Miscellaneous Functions if the "old" IC is damaged, the IC numbers are different or to restore the default parameter settings by Country.**
-

System - Passive Restraints

Occupant Restraint Controller (ORC)

Select the **Module Service Replacement** option to perform all changes required when replacing the ORC. System - Theft Alarm

Security System Module (SSM)

Select the **Module Auto Replacement** option to perform all changes required when replacing the SSM or perform all of the function configurations in the Miscellaneous mode.

Sentry Key Remote Entry Module (SKREEM)

A new SKREEM must be ordered for a vehicle by VIN. It will be programmed by the supplier for the vehicle. Ignition Keys

New ignition keys are ordered by VIN. They are programmed to the SKREEM with the **Learn Transponder Key** function located in the **Miscellaneous Functions** menu.

Important:

- **Do not unplug the DRB III or allow the vehicle to lose power during the key programming process. The codes will be lost and the process repeated. Call the Sprinter Hotline at 1-866-769-8092 to get the key codes.**
-

Injector Classification - CR3 Only

Injector Initialization and Classification must be run after replacing the engine ECU.

When entering injector classification codes, the following characters are illegal and the DRB will not allow the user to select them

J	Q	0 (zero)	9
---	---	----------	---

Valid characters are 'A' through 'Z' (excluding J and Q) and '1' through '8'.

ACM Analog Crash output test

The **ACM Analog Crash Output** test is located in the System Test Menu. A DTC will be set in the CTM when this test is executed. The DTC should be cleared before attempting to start the van.

If the van does not have a CTM, it probably will NOT start on the first attempt. If the van does not start, turn the ignition Off and wait 30 seconds.

Start the van after 30 seconds. If the van does not start on this attempt, repeat the ignition Off and wait another 30 seconds. This condition is normal after running this test.

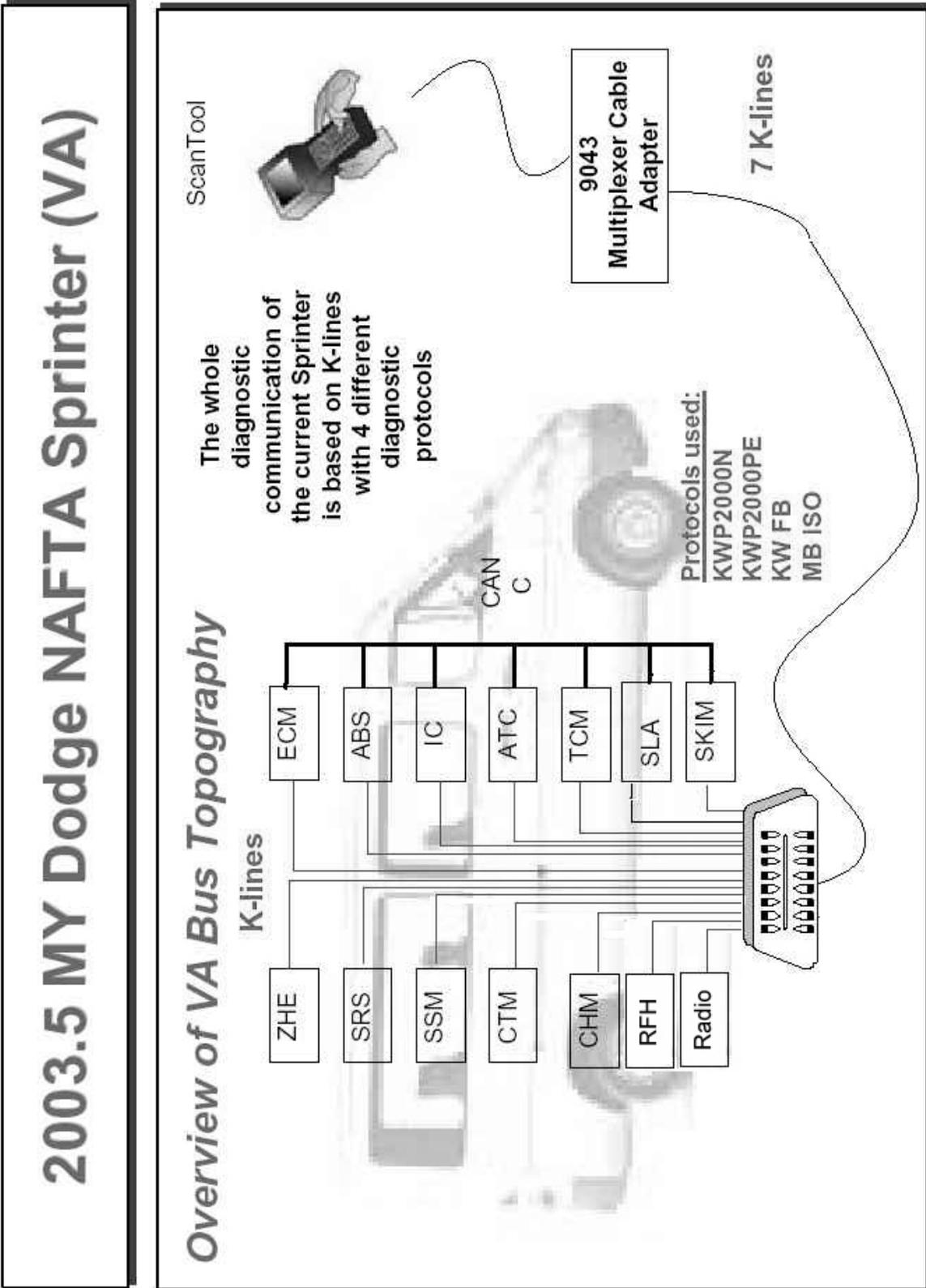
Sprinter OBD II Diagnostic Pinout

PIN	ECU	DAS Name	DCAG_Name	SGM_Name (DAS)	K_Line Hex	Initialization
1	Sentry Key Remote Entry Module	WSP	SKREEM	WSPBR901	58	Fast
7	CR2 Common Rail 2	CR2	ECM	CR2	12	Fast
	CR3 Common Rail 3 ¹	CR3	ECM	CR3	12	Fast
9	Anti-Lock Brake System	ABS	ABS	ABSBR901	34	Fast
	Electronic Stability Program ²	ESP	ESP	ESP639	34	Fast
	Shift Lever Assembly	EWM	SLA	EWM210	24	Fast
11	Transmission Control Module	EGS	TCM	EGS52	20	Fast
	Radio ¹	RADIO	RADIO	RAD	DO	Fast
	Back-up Assist	RFH	RFH	RFH901	74	Fast
12	Central Timer Module	ZV	CTM	ZVZBR901	13	Fast F
	Security System Module	EDW2	SSM	EDWBR901	44	Fast
15	Airbag Control Module	AB	ACM	ARS2	41	MBISO
	Instrument Cluster	KI	IC	INSBR901	69	Fast
	Automatic Temperature Control	HZR	ATC	HZRKL	50	Fast
	Cabin Heater Module	ZHE	CHM	STH901	9D	Fast
	Heater Booster Module	ZUH	HBM	ZUH901	B0	Fast

1 - Model year 2004 and up.

2 - Model year 2004 and up but not 3500 series.

2003.5 Sprinter Bus Topography



Order and Service Information

Dealer Order Information

Kits, replacement and optional parts can be ordered directly from Pentastar Service Equipment (PSE). Call Customer Service at **1-800-223-5623**, fax your order to **1-800-734-4334**, or visit www.pse.daimlerchrysler.com. Your order should include the following information:

1. Quantity
2. Part number
3. Item description
4. Dealer Code

International dealers, Aftermarket customers, and Fleets can order from SPX Miller Special Tools. Call Customer Service at **1-800-801-5420**.

Technical Service

For product questions call Miller Special Tools at **1-800-801-5420**, or visit www.miller.spx.com. For vehicle questions call your STAR hotline at **1-800-850-7827**,

Repair Service

If you have questions about sending a product in for repair, you can reach the repair department by telephone at **1-800-344-4013** (USA/Canada) or **1-507-455-4369** (all others), fax at **1-507-455-4410**, or e-mail at eservice@servicesolutions.spx.com.

For non-warranty repairs, payment can be made with Visa, Master Card, Discover, or approved credit terms. To receive a credit application, please fax your request to the Credit Department at **1-800-962-8734**.

When sending your SPX electronic product in for repair, please use the Repair Authorization Form, [page 24](#). Check the status of a repair at www.starscan.spx.com; for additional information refer to Repair Status Web Site, [page 25](#).

Repair Authorization Form

SPX Corporation Electronic Service Center, Owatonna, MN

Please complete this form and return it along with your product
when sending equipment to us for repair.

(Italicized items must be filled in)

Product Information

Item to be repaired _____ **OTHER** _____ **S/N** _____

Describe Symptoms _____

Has the unit been repaired previously by SPX? No _____ Yes _____, Date of repair _____

Customer Information

Business Name _____ *Contact* _____

Address _____ *Phone* _____

City _____ *Dealer Code* _____

State/Province _____ *Fax* _____

Zip/Postal Code _____ *E-mail* _____

PAYMENT INFORMATION

THIS INFORMATION IS REQUIRED TO BEGIN NON-WARRANTY REPAIR

PO# _____

Visa ___ *MC* ___ *Discover* ___ *Card No.* _____ *Exp. Date* ___/___

Name as it appears on credit card _____

Shipping Information

Please package your product securely and ship to the following address:

SPX Corporation
Depot Service Department
2300 Park Drive
Owatonna, MN 55060

Date Shipped _____ **Mode of Shipment:** UPS Red _____ Other _____

TELEPHONE: USA/Canada 1-800-344-4013, all others 1-507-455-4369

E-MAIL: eservice@servicesolutions.spx.com

REPAIR TRACKING ON THE WEB: www.starscan.spx.com TELEPHONE: USA/Canada 1-800-344-4013, all others 1-507-455-4369

E-MAIL: eservice@servicesolutions.spx.com

REPAIR TRACKING ON THE WEB: www.starscan.spx.com

Repair Status Web Site

To check the status of a repair, point your browser to the web address www.starscan.spx.com.

To access this web site, enter a user name, password, and e-mail address as described next:

1 ENTER YOUR USERNAME

1 Type in your dealer code followed by the letters CE.; For example, type in 1098CE.

2 ENTER YOUR PASSWORD Type in your 5-digit zip code; for example, type in 55001.

Note: *You will be asked to change your password after you have entered the web site. Thereafter, use your new password when accessing the web site.*

3 Click the **SIGN IN** button.

4 ENTER AN E-MAIL ADDRESS

Type in your service manager's e-mail address. You are required to enter this the first time you access the web site; thereafter, you will not be asked for this. (You can update your e-mail address by entering the My Profile tab after you are logged in.)

If you need assistance or are having difficulty logging in, contact Customer Service at 1-800-344-4013 or at eservice@servicesolutions.spx.

SCN Coding Form

SPX SERVICE SOLUTIONS

28635 Mound Rd Warren, MI 48092 Ph 800-801-5420 Fax 586-582-5830

SPX Miller Special Tools SCN Coding Form

Reference TechTools or STAR Hotline to fill in the following information. Use with DRB III for PCM/ECM and TCM replacement on the Crossfire and Sprinter. Follow the DRB III on-screen directions.

VIN:

17 Digit VIN

P/N:

10 Digit MB Part Number

Coding String: 2 characters per box, numbers 0-9 or letters a-f. 4-5 boxes used for ECM, 16 for PCM, 42 for TCM.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

PCM

17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42						

TCM

SCN:

3 Digits 3 Digits 4 Digits 2 Digits 4 Digits

Check Sum: 8 digits, can be numbers 0-9 or letters a-f.

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SPX Corporation Limited Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO ORIGINAL RETAIL BUYERS OF SPX ELECTRONIC DIAGNOSTIC TOOLS ("UNITS").

SPX Units are warranted against defects in materials and workmanship for Two years (24 months) from date of delivery. This warranty does not cover any Unit that has been abused, altered, used for a purpose other than that for which it was intended, or used in a manner inconsistent with instructions regarding use. The sole and exclusive remedy for any Unit found to be defective is repair or replacement, at the option of SPX. In no event shall SPX be liable for any direct, indirect, special, incidental or consequential damages (including lost profit) whether based on warranty, contract, tort or any other legal theory. The existence of a defect shall be determined by SPX in accordance with procedures established by SPX. No one is authorized to make any statement or representation altering the terms of this warranty.

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