ASIAN IMPORTS APPLICATION

Operator's Manual

3rd Edition

Acura
Chrysler Imports
Daihatsu
Honda
Hyundai
Infiniti
Isuzu
Kia
Lexus
Mazda
Mitsubishi
Nissan
Subaru
Suzuki
Toyota

Vetronix Corporation
Diagnostics for Vehicle Electronics

SOME THINGS YOU SHOULD KNOW:

> ⚠ ***CAUTION:*** ***EXHAUST GAS***
>
> ***When performing any checks with the engine running in an enclosed space such as a garage, be sure there is proper ventilation. Never inhale exhaust gases; they contain carbon monoxide, a colorless, odorless extremely dangerous gas which can cause unconsciousness or death.***

> ⚠ ***CAUTION:***
>
> ***Always set the parking brake securely before performing any checks or repairs on the vehicle to help prevent vehicle movement that may cause injury.***

IMPORTANT-PLEASE READ

The **TECH 1**, **TECH 1A**, and **Mastertech** are designed for use by authorized personnel only. They have been developed for the sole purpose of diagnosing and repairing automotive electronic systems. With the help of the information presented in this manual and the appropriate automotive service manual, qualified personnel should be able to diagnose and repair vehicle electronic control systems.

DISCLAIMER

Every attempt has been made to provide complete and accurate technical information based on service information available at the time of publication. However, the right is reserved to make changes at any time without notice.

FCC CERTIFICATION

"This equipment complies with the requirement in Part 15 of FCC rules for a Class A computing device. Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps necessary to correct the interference."

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A NOTE ABOUT TECH 1 AND TECH 1A TESTERS

The **TECH 1** Series A is an updated version of the **TECH 1**. In addition to already proven **TECH 1** diagnostic power, the **TECH 1** Series A has on-board RS232, Instrumentation Port, and DC Power Jack capabilities. You can differentiate a **TECH 1A** from a **TECH 1** by the phone-style jacks on both sides of the tester. All existing aftermarket **TECH 1** application cartridges will run in the **TECH 1A**. Note that the **TECH 1** and **TECH 1A** do not use the same DLC or DC Power cable, nor are the Adapters the same.

On some vehicles power to the cigarette lighter is controlled by the ignition switch. When testing these vehicles with a TECH 1 or TECH 1A, it is best to connect the tester directly to the battery with the optional Battery Adapter Cable (P/N 02001636), which is available from your TECH 1A distributor.

USING THIS CARTRIDGE WITH A TECH 1 OR TECH 1A TESTER

When using the Asian Imports Software and a **TECH 1A** on OBD II compliant controllers, an OBD II interface cartridge and 16/14 pin adapter cable is required, or an OBD II Vehicle Interface Module (VIM) and 16/24 pin adapter cable can be used. When using the Asian Imports Software and a **TECH 1** on Asian vehicles with OBD II compliant controllers, an OBD II Vehicle Interface Module (VIM) and 16/24 pin adapter cable will be required.

When you are using this manual to diagnose a vehicle, take the time to determine the type of tester that you are working with and be sure you are using the correct cables and adapters. Doing so may prevent misuse of application cartridges and incorrect vehicle diagnosis.

USING THIS CARTRIDGE WITH A MASTERTECH TESTER

In addition to the **TECH 1** and **TECH 1A**, this cartridge can also be used with the **Mastertech** tester. Refer to the **Mastertech** Operator's Manual for installing the cartridge and connecting the **Mastertech** to the vehicle.

When using the Asian Imports Software cartridge and a MASTER-TECH on Asian vehicles with OBD II compliant controllers, an OBD II compliant MASTERTECH and 16/14 pin adapter cable is required, or an OBD II Vehicle Interface Module (VIM) and 16/24 pin adapter cable can be used.

When used alone in the **Mastertech**, the operation of the cartridge and the vehicle identification screens, test menus and data screens are as described in this manual.

This cartridge can also be used with the **Mastertech** in conjunction with a program card, which allows viewing of vehicle identification screens, test menus, and diagnostic data parameters in full-screen Enhanced Mode displays. Refer to the Enhanced Mode operating instructions in the program card operator's manual for further detail.

GENERAL INFORMATION

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INTRODUCTION

Reading through this manual before putting your Asian Imports Cartridge and TECH 1, TECH 1A or MASTERTECH tester to work will introduce you to the diagnostic capabilities and tell you how to use them immediately. The application software is designed to reduce time-consuming reference to manuals as much as possible. Once you are familiar with the software and its operation, you'll be able to spend more time diagnosing and less time reading. Later, if questions arise, a quick glance at the flow chart for the test you are performing will probably be all you need.

COMMON TEST MODES DESCRIPTION

Operating Procedures for test modes that are common to two or more makes of vehicles are included in the Common Test Modes section. These test modes are listed below:

MODE F0: Data List
MODE F1: DTC Entry
MODE F2: DTC(s)
MODE F3: Snapshot
MODE F4: OBD Controls
MODE F5: System Tests
MODE F8: Information

MANUFACTURER SPECIFIC SECTIONS DESCRIPTION

Information that is specific for the different makes of vehicles is included in the Manufacturer Specific sections. Each Manufacturer Specific section includes a chart of the years and models that can be tested, a chart of adapters required, instructions for connecting the tester to the vehicle, and operating procedures for the manufacturer specific test modes.

Also included in the Manufacturer Specific section is a complete list of Diagnostic Trouble Codes (DTCs) for each vehicle.

For vehicles capable of providing serial data to the tester, a list of the parameters available and a description of each parameter is provided.

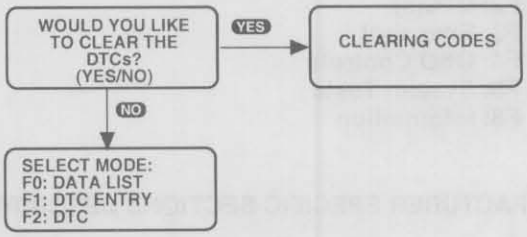
GENERAL INFORMATION

FLOW CHART DESCRIPTION

The flow charts in this manual consist of screen displays enclosed in boxes. The displays are arranged in the order in which they appear while using the tester. If you are using a Mastertech tester, full screen displays are available when operating in Enhanced Mode. Refer to the Multi-Function Tester Program Card Operator's Manual for Enhanced Mode operating instructions.

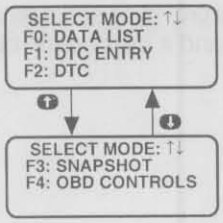
Keys on the tester keypad are shown in the manual as white letters in small black boxes. There is a list of the active tester keys and their functions at the end of each operating procedure.

Some display screens, such as vehicle selection and test mode menus, require input from you. To respond when the tester asks for information, just press the appropriate key on the tester keypad. In the example below, pressing the YES key causes the tester to display the screen to the right and pressing NO causes the lower screen to be displayed. Although there are exceptions, pressing the EXIT key generally takes you back to the previous screen.



TEST SELECTION MENU DESCRIPTION

The tester displays up to three test modes at a time. If other test modes are available, the tester automatically scrolls to the next menu display after three seconds. To stop the automatic scrolling, press the ↓ key. The display may then be manually scrolled by pressing the ↑ key. Regardless of which test modes are displayed, any test mode can be selected at any time from the menu. All menus of more than three items scroll in this way.



1.0 OPERATING PRECAUTIONS

CONNECTING AND DISCONNECTING THE TESTER WHILE IGNITION KEY IS ON

Due to the possibility of voltage spikes that could damage the vehicle or tester electronics, you should not connect or disconnect the tester while the ignition key is ON or while the engine is running.

REMOVING THE CARTRIDGE WHILE THE TESTER IS POWERED ON

The cartridge should not be removed or installed from the tester while the tester is powered on. If after installing the cartridge the tester does not appear to be functioning properly, reset the tester by disconnecting the power plug from the vehicle and reconnecting it.

VEHICLE SPECIFIC PRECAUTIONS

For some vehicles, additional precautions are included in the Manufacturer Specific Sections.

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2.0 ASIAN IMPORTS CARTRIDGE KIT DESCRIPTION

The Asian Imports Cartridge is used with the TECH 1, TECH 1 Series A (TECH 1A) or MASTERTECH tester to diagnose Asian Import vehicles manufactured by Acura, Chrysler Imports, Daihatsu, Honda, Hyundai, Infiniti, Isuzu, Kia, Lexus, Mazda, Mitsubishi, Nissan, Subaru, Suzuki, and Toyota (for Isuzu and Suzuki diagnostic test mode descriptions, please refer to the Isuzu and Suzuki Operator's Manuals).

Depending on the vehicle being tested, the Asian Imports Cartridge can be used to test engine and transmission controllers, or powertrain controllers on vehicles with engine and transmission electronics. All tests and prompts are specific to the vehicle that you are testing, which reduces your dependency on shop manuals.

For most Asian vehicles, the cartridge allows you to read system Data List parameters and Diagnostic Trouble Codes (DTCs), input the DTC for a description, command different Electronic Control Unit (ECU) operation modes, control idle speed, clear diagnostic trouble codes, and control various output actuators. To reduce the amount of time required to reach a diagnostic solution, output actuators can be controlled while Data List parameters are displayed.

The Snapshot feature of the cartridge greatly simplifies the task of diagnosing difficult intermittent problems by "capturing" diagnostic parameters, either while you are in the service bay or during road testing. Data is collected both before and after an intermittent event and saved in the tester for later analysis. This data is retained in the tester memory for at least 24 hours, even if you remove your tester from the vehicle, or until it is replaced with newer data.

Some vehicle systems support the use of OBD Controls which can be used to diagnose certain powertrain control system problems. For example, on some systems you can monitor air fuel ratio, determine oxygen sensor range of operation, and perform switch tests. In some cases, the OBD Controls allow you to command the ECU into a mode of operation that sets up an ideal environment for fuel or ignition system diagnostics.

GENERAL INFORMATION

A NOTE ABOUT TECH 1 AND TECH 1A TESTERS

The Asian Imports application cartridge is compatible with the TECH 1, TECH 1A, and MASTERTECH testers. However, if you are using the Asian Imports application cartridge with a TECH 1, a TECH 1 14/15 Pin Data Link Connector (DLC) cable (P/N 02001980) is required for connection to the Asian vehicle adapters. Also, when using a TECH 1 tester on Toyota or Lexus vehicles, the number of available OBD systems will be reduced (see the Toyota or Lexus sections in this manual). When using a TECH 1 tester on Mazda vehicles, the Switch Test OBD Controls test will not function properly (see the Mazda section of this manual).

The TECH 1A tester is an updated version of the TECH 1 tester. In addition to already proven TECH 1 diagnostic power, the TECH 1A has on-board RS232, Instrumentation Port, and DC Power Jack capabilities. You can identify a TECH 1A by the phone-style jacks on both sides of the tester.

Note that the TECH 1 and TECH 1A require a different DLC cable, DC Power cable, and vehicle adapters. When using this manual to diagnose a vehicle, take the time to determine the type of tester that you have, and be sure you are using the correct cables and adapters. Doing so may prevent misuse of application cartridges and incorrect vehicle diagnosis.

With the built-in RS232C interface, the Mastertech and Tech 1A testers both support host computer communications and printer capabilities. Using the optional VP-411 printer, you can print a hard copy of test results. This information is helpful for your reference records as well as customer consultation when you are describing test results.

ASIAN IMPORTS CARTRIDGE FEATURES

With the Asian Imports Cartridge you can:

- Select a specific vehicle to test by make, model, model year and VIN code
- Read engine and transmission diagnostic data parameters (if available from vehicle)
- Read instructions for learning how to read DTCs from vehicles with ECU LED, analog voltmeter, or MIL output DTCs
- Read instructions for clearing DTCs from selected vehicles
- Display location of ECU diagnostic jumper connector (DJC), or Data Link connector (DLC)
- Read pending DTCs from OBD II compliant vehicles
- Read and display Diagnostic Trouble Codes, including manufacturer specific DTCs on OBD II compliant vehicles.
- Read Freeze Frame DTC information for OBD II compliant vehicles.
- Print diagnostic data and trouble codes
- View Readiness Test Information for OBD II compliant vehicles
- Diagnose intermittent problems by capturing and storing multiple samples of system data before and after the problem occurs, then examining the data to determine the problem.
- Clear engine and transmission DTCs (not available on all vehicles)
- Perform various engine running tests
- Control engine and transmission actuators (not available on all vehicles)
- Perform specialized tests on selected engine ECUs (not available on all vehicles)
- Control engine idle speed (not available on all vehicles)
- Read engine and transmission controller information (not available on all vehicles)
- Reset engine and transmission memory parameters (not available on all vehicles)

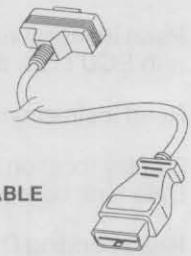
GENERAL INFORMATION

2.1 ASIAN IMPORTS CARTRIDGE KIT CONTENTS

The Asian Imports Cartridge kit includes the Asian Imports Cartridge and this operator's manual. The following vehicle specific adapters and cables are used in conjunction with the Asian Imports Cartridge Kit.

TYPE 3 CABLE FOR OBD II APPLICATIONS

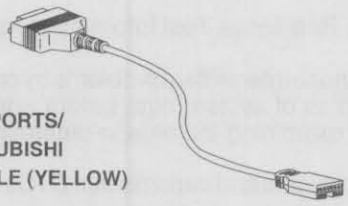
When testing OBD II compliant vehicles with a 16-pin DLC, the 16/14 Pin OBD II Type 3 Adapter Cable (P/N 02001969) must be connected to the end of the Mastertech/Tech 1A DLC Adapter Cable.



TYPE 3 CABLE

CHRYSLER IMPORTS/HYUNDAI/MITSUBISHI ADAPTER

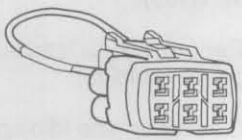
The Chrysler Imports/Hyundai/Mitsubishi Adapter (P/N 02001921) must be connected to the end of the tester DLC Adapter Cable to perform certain tests on these vehicles. The tester informs you where to connect the adapter to the DLC connector on the vehicle.



CHRYSLER IMPORTS/
HYUNDAI/MITSUBISHI
ADAPTER CABLE (YELLOW)

DAIHATSU JUMPER

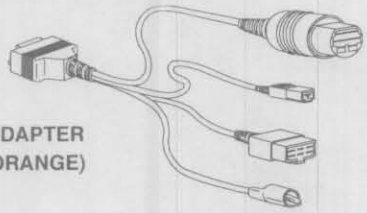
To perform certain tests on Daihatsu vehicles, the Daihatsu 6 Pin Jumper (P/N 02002073) must be connected to the vehicle diagnostic connector. The tester informs you where to connect the jumper to the diagnostic connector on the vehicle.



DAIHATSU JUMPER

MAZDA ADAPTER

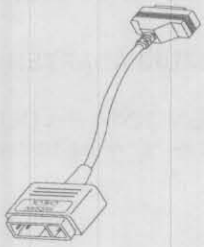
When testing Mazda vehicles, a 1, 6, 17/14 Pin DLC adapter cable (P/N 02001922) must be used. The appropriate orange end of the cable is then connected to the vehicle DLC. A chart at the beginning of the Mazda Specific Instructions indicates which adapter cable connector to use for the selected vehicle.



MAZDA ADAPTER CABLE (ORANGE)

NISSAN CHECK ADAPTER

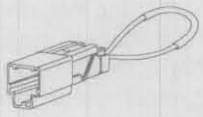
To perform certain tests on Nissan vehicles, the Nissan 12/14 Pin Check adapter (P/N 02001897) must be connected to the end of the tester DLC Adapter Cable. The Red end of the cable is then connected to the vehicle DLC. The tester informs you where to connect the Check Adapter cable to the DLC, on the vehicle.



NISSAN CHECK ADAPTER CABLE (RED)

HONDA/ACURA SCC JUMPER

The Honda/Acura 2-Pin Service Check Connector (SCC) Jumper (P/N 02001935) is required for certain tests on Honda and Acura vehicles. The tester informs you where to connect the jumper to the SCC connector on the vehicle.

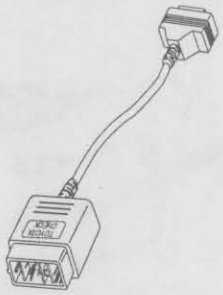


HONDA/ACURA SCC JUMPER

GENERAL INFORMATION

TOYOTA/LEXUS TDCL AND CHECK ADAPTER CABLES

For Toyota and Lexus vehicles, certain tests require the green 17/14 Pin TDCL (P/N 02001895) or the blue 21/14 Pin Check (P/N 02001896) Adapter Cable to be connected to connects to the end of the tester DLC Cable. The color coded end of the adapter cable connects to the vehicle Check connector or TDCL connector.

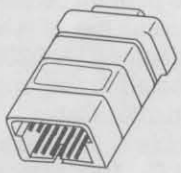


TOYOTA/LEXUS CHECK ADAPTER CABLE (BLUE)

TOYOTA/LEXUS TDCL ADAPTER CABLE (GREEN)

SUZUKI ADAPTER

A GM 12/14 Pin DLC adapter is required for connecting the tester to Suzuki vehicles.



GM 12/14 Pin DLC Adapter

ISUZU 3-PIN ADAPTERS

When testing some Isuzu vehicles, a 3-Pin DLC adapter must be used. The adapter required depends on the ECU manufacturer. A chart at the beginning of the Isuzu Specific Instructions indicates which adapter, the Isuzu/Delco (P/N 02001325) or the Isuzu/Hitachi (P/N 02001326) to use for the selected vehicle. Note that the adapter must be used in conjunction with the GM 12/14-Pin adapter (included in the MASTERTECH and TECH 1A kits).

ISUZU/DELCO 3-PIN DLC ADAPTER

ISUZU/HITACHI 3-PIN DLC ADAPTER

ASIAN IMPORTS JUMPER APPLICATIONS

Manufacturer	P/N	Configuration	Single Wire
Chrysler Import /Mitsubishi	02002106	2 pin (male)	Yes
Daihatsu	02002073	6 pin	Yes, with shell
Kia/Nissan /1986-88 Toyota	02002075	2 pin (male)	Yes
1983-85 Toyota	02002076	2 pin (male)	Yes
Acura/Honda	02001935	2 pin	Yes, with shell

ASIAN IMPORTS ADAPTER CABLE APPLICATIONS

Manufacturer Supported:	VTX P/N	Configuration
Chrysler Import Mitsubishi Hyundai	02001921	12/14 pin
Mazda	02001922	1/6/17/14 pin
Nissan	02001897	12/14 pin
Toyota (Check)	02001896	21/14 pin
Toyota (TDCL)	02001895	17/14 pin
All Asian Manufacturers with OBD II Compliant Powertrain Systems	02001969	16/14 pin

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3.0 VEHICLE COVERAGE

Following is a list of vehicles that can be tested with the Asian Imports Cartridge. A more detailed chart is included in the Manufacturer Specific Sections.

ACURA		
YEAR	MODEL	ENGINE
1986-90	Integra	1.6L I4
1991-94	Integra	1.8L I4
1992-94	Integra	1.7L I4
1986	Legend	2.5L V6
1987-90	Legend Coupe	2.7L V6
1991-94	Legend Coupe	3.2L V6
1987	Legend Sedan	2.5L V6
1988-90	Legend Sedan	2.7L V6
1991-94	Legend Sedan	3.2L V6
1991-94	NSX	3.0L V6
1992-94	Vigor	2.5L V6

CHRYSLER IMPORTS (DODGE)		
YEAR	MODEL	ENGINE
1995-98	Avenger	2.0L DOHC I4
1995-98	Avenger	2.5L V6 SOHC
1984-89	Colt	1.6L I4 Turbo
1988-90	Colt	1.6L I4
1988-98	Colt	1.5L I4
1993-98	Colt	1.8L I4
1989	Colt 2000	1.6L I4 Turbo
1989-90	Colt 2000	1.6L I4
1989-92	Colt 2000	1.5L I4
1987-91	Colt Vista	2.0L I4
1992-95	Colt Vista	1.8L I4
1992-95	Colt Vista	2.4L I4
1989-90	Colt Wagon	1.5L I4
1989-90	Colt Wagon	1.8L I4
1985-89	Conquest	2.6L I4 Turbo
1990-93	Power Ram 50	2.4L I4
1990-93	Power Ram 50	3.0L V6
1990	Ram 50	3.0L V6
1990, 93	Ram 50	2.4L I4
1989	Ram Raider	3.0L V6
1995-98	Sebring	2.0L DOHC I4
1995-98	Sebring	2.5L V6 SOHC
1991-96	Stealth	3.0L SOHC V6
1991-96	Stealth	3.0L DOHC V6
1991-96	Stealth	3.0L DOHC Turbo V6
1989-90	Vista Wagon	2.0L I4
CHRYSLER IMPORTS (EAGLE)		
YEAR	MODEL	ENGINE
1989-90	Summit	1.6L I4
1989-96	Summit	1.5L I4
1993-96	Summit	1.8L I4
1992-96	Summit Wagon	1.8L I4
1992-96	Summit Wagon	2.4L I4
1990-94	Talon	1.8L I4
1990-95	Talon	2.0L I4
1990-95	Talon	2.0L I4 Turbo
1996-98	Talon	2.0L I4
1996-98	Talon	2.0L I4 Turbo
CHRYSLER IMPORTS (PLYMOUTH)		
YEAR	MODEL	ENGINE
1990-94	Laser	1.8L I4
1990-94	Laser	2.0L I4
1990-94	Laser	2.0L I4 Turbo

DAIHATSU		
YEAR	MODEL	ENGINE
1988-92	Charade	1.0L I4
1989-92	Charade	1.3L I4
1990-92	Rocky	1.6L I4
HONDA		
YEAR	MODEL	ENGINE
1986-89	Accord	2.0L I4
1990-94	Accord	2.2L I4
1994	Accord	2.2L I4 VTEC
1986	Accord Lxi	2.0L I4
1985	Accord Sei	1.8L I4
1987-94	Civic	1.5L I4
1989-91	Civic	1.6L I4
1992-93	Civic	1.5L I4 VTEC-E
1992-94	Civic	1.6L I4 VTEC
1988	Civic CRX	1.5L I4
1985-87	Civic CRX Si	1.5L I4
1988	Civic CRX Si	1.6L I4
1993	Civic del Sol	1.5L I4 VTEC
1993-94	Civic del Sol	1.6L I4 VTEC
1994	Civic del Sol	1.5L I4
1994	Civic del Sol	1.6L I4
1986	Civic Si	1.3L I4
1989	Civic Wagon	1.6L I4
1989	Civic Wagon	1.5L I4
1989-91	CRX	1.5L I4
1989	CRX HF	1.5L I4
1989-91	CRX Si	1.6L I4
1986-91	Prelude	2.0L I4
1992-94	Prelude	2.2L I4
1992-94	Prelude	2.3L I4
1993-94	Prelude	2.2L I4 VTEC
1990-91	Prelude Si	2.0L I4
1990-91	Prelude Si	2.1L I4

HYUNDAI		
YEAR	MODEL	ENGINE
1996-98	Accent	1.5L
1992-95	Elantra	1.6L I4
1993-98	Elantra	1.8L I4
1995	Elantra	1.5L
1990-94	Excel	1.5L I4
1991-95	Scoupe	1.5L I4
1989-91	Sonata	2.4L I4
1989-98	Sonata	3.0L V6
1992-93	Sonata	2.0L I4
1994-98	Sonata	2.0L I4 DOHC
1997-98	Tiburon	1.8L I4
1997-98	Tiburon	2.0L I4
INFINITI		
YEAR	MODEL	ENGINE
1991-96	G20	2.0L I4
1996-98	I30	3.0L V6
1993-97	J30	3.0L V6
1990-92	M30	3.0L V6
1990-96	Q45	4.5L V8
1997-98	Q45	4.1L V8
1997-98	QX4	3.3L V6
KIA		
YEAR	MODEL	ENGINE
1994	Sephia	1.6L I4
LEXUS		
YEAR	MODEL	ENGINE
1990-91	ES250	2.5L V6
1992-94	ES300	3.0L V6
1993-94	GS300	3.0L I6
1990-94	LS400	4.0L V8
1992-94	SC300	3.0L I6
1992-94	SC400	4.0L V8

MAZDA		
YEAR	MODEL	ENGINE
1986-89	323	1.6L I4
1988-89	323	1.6L I4 Turbo
1990-94	323	1.8L I4 DOHC
1990-94	323	1.8L I4 SOHC
1991-94	323	1.6L I4 SOHC
1995	323	1.5L I4
1987-89	323 Wagon	1.6L I4
1983-87	626	2.0L I4
1986-87	626	2.0L I4 Turbo
1988-92	626	2.2L I4
1993-98	626	2.0L I4
1993-98	626	2.5L V6
1988-89	929	3.0L V6
1990-91	929	3.0L V6 DOHC
1990-91	929	3.0L V6 SOHC
1992-93	929	3.0L V6
1994-95	929	3.0L V6 DOHC
1994-97	B Series	2.3L I4
1994-98	B Series	3.0L V6
1994-98	B Series	4.0L V6
1995	B Series	2.5L I4
1986	B2000	2.0L I4
1987-93	B2200	2.2L I4
1987-93	B2600	2.6L I4
1983-85	GLC	1.5L I4
1990-93	Miata	1.6L I4
1994-97,99	Miata	1.8L I4
1996-98	Millenia	2.3L V6
1996-98	Millenia	2.5L V6
1989-95	MPV	2.6L I4
1989-98	MPV	3.0L V6
1992-95	MX3	1.6L I4
1992-95	MX3	1.8L I4
1990-93	MX5	1.6L I4
1994-97,99	MX5	1.8L I4
1988-92	MX6	2.2L I4
1993-97	MX6	2.0L I4
1993-97	MX6	2.5L V6
1991-94	Navaho	4.0L V6

MAZDA (CONT.)		
YEAR	MODEL	ENGINE
1988	Protegé	1.6L I4
1988	Protegé	1.6L I4 Turbo
1990-94	Protegé	1.8L I4 DOHC
1990-94	Protegé	1.8L I4 SOHC
1991-94	Protegé	1.6L I4 SOHC
1995-98	Protegé	1.5L I4
1996-98	Protegé	1.8L I4
1984-91	RX7	1.3L R2
1987-95	RX7	1.3L R2 Turbo

MITSUBISHI		
YEAR	MODEL	ENGINE
1991-98	3000GT	3.0L V6 DOHC
1991-98	3000GT	3.0L V6 DOHC Turbo
1984-88	Cordia	1.8L I4 Turbo
1992-96	Diamante	3.0L V6 SOHC
1992-96	Diamante	3.0L V6 DOHC
1997-98	Diamante	3.5L V6 SOHC
1993-95	Diamante Wagon	3.0L V6
1990-94	Eclipse	1.8L I4 SOHC
1990-98	Eclipse	2.0L I4 DOHC
1990-98	Eclipse	2.0L I4 DOHC Turbo
1996	Eclipse	2.4L I4 SOHC
1997-98	Eclipse Spyder	2.0L I4 DOHC Turbo
1997-98	Eclipse Spyder	2.4L I4 SOHC
1992-96	Expo	2.4L I4
1992-96	Expo LRV	1.8L I4
1993-96	Expo LRV	2.4L I4
1985-87	Galant	2.4L I4
1989-93	Galant	2.0L I4 SOHC
1989-93	Galant	2.0L I4 DOHC
1990-92	Galant	2.0L I4 DOHC Turbo
1993	Galant	2.0L I4 SOHC 16V
1994-95	Galant	2.4L I4 DOHC
1994-98	Galant	2.4L I4 SOHC
1985-88	Mirage	1.6L I4Turbo
1987	Mirage	1.6L I4
1989-92	Mirage	1.6L I4 DOHC
1989-98	Mirage	1.5L I4 SOHC
1993-98	Mirage	1.8L I4 SOHC
1989-96	Montero	3.0L V6
1994-98	Montero	3.5L V6 DOHC
1997-98	Montero Sport	2.4L I4 SOHC
1997-98	Montero Sport	3.0L V6 SOHC
1990-94	Precis	1.5L I4
1988	Sigma	3.0L V6
1984-87	Starion	2.6L I4 Turbo
1986-89	Starion	2.6L I4 Turbo-I
1984-88	Tredia	1.8L I4 Turbo
1990-95	Truck	2.4L I4
1990-95	Truck	3.0L V6
1987-90	Van/Wagon	2.4L I4

NISSAN		
YEAR	MODEL	ENGINE
1984-88	200SX	1.8L I4 Turbo
1984-88	200SX	2.0L I4
1984-88	200SX	3.0L V6
1995-98	200SX	1.6L I4
1995-98	200SX	2.0L I4
1989-98	240SX	2.4L I4
1984-96	300ZX	3.0L V6
1993-98	Altima	2.4L I4
1990	Axxess	2.4L I4
1998	Frontier	2.4L I4
1985-98	Maxima	3.0L V6
1991-94	NX Coupe	1.6L I4
1991-94	NX Coupe	2.0L I4
1986-93	Pathfinder	2.4L I4
1986-96	Pathfinder	3.0L V6
1997-98	Pathfinder	3.3L V6
1987-90	Pulsar NX	1.6L I4
1988-89	Pulsar NX	1.8L I4
1993-98	Quest	3.0L V6
1987-98	Sentra	1.6L I4
1991-98	Sentra	2.0L I4
1985-89	Stanza	2.0L I4
1990-92	Stanza	2.4L I4
1995-96	Stanza	2.4L I4
1986-93	Truck	2.4L I4
1986-95	Truck	3.0L V6
1995-97	Truck	2.4L I4
1989	Van	2.4L I4

SUBARU		
YEAR	MODEL	ENGINE
1986-89	3-Door	1.8L
1983-84	BRAT	1.8L
1998	Forester	2.5L
1983-84	Hardtop	1.8L
1984	Hardtop	1.6L
1998-94	Hatchback	1.6L
1998-94	Hatchback	1.8L
1993-97	Impreza	1.8L
1996-98	Impreza	2.2L
1998	Impreza	2.5L
1987-90	Justy	1.2L
1990-98	Legacy	2.2L
1990-91	Loyale	1.8L
1983-84	Sedan	1.6L
1983-89	Sedan	1.8L
1992-97	SVX	2.5L
1983-89	Wagon	1.8L
1985-91	XT	1.8L
1988-91	XT6	2.7L

TOYOTA		
YEAR	MODEL	ENGINE
1985-94	4-Runner	2.4L I4
1985-94	4-Runner	3.0L V6
1983-91	Camry	2.0L I4
1989-91	Camry	2.5L V6
1992-94	Camry	2.2L I4
1992-94	Camry	3.0L V6
1983-85	Celica	2.4L I4
1986-93	Celica	2.0L I4
1990-93	Celica	1.6L I4
1990-94	Celica	2.2L I4
1994	Celica	1.8L I4
1985-94	Corolla	1.6L I4
1993-94	Corolla	1.8L I4
1983-88	Cressida	2.8L I6
1989-92	Cressida	3.0L I6
1988-92	Land Cruiser	4.0L I6
1993-94	Land Cruiser	4.5L I6
1986-90	MR2	1.6L I4
1991-94	MR2	2.0L I4 Turbo
1991-94	MR2	2.2L I4
1992-94	Paseo	1.5L I4
1991-94	Previa	2.4L I4
1983	Starlet	1.3L I4
1983-86	Supra	2.8L I6
1986-94	Supra	3.0 I6 Turbo
1986-94	Supra	3.0L I6
1993-94	T-100	3.0L V6
1989-94	Tercel	1.5L I4
1984-94	Truck	2.4L I4
1985-94	Truck	3.0L V6
1984-85	Van	2.0L I4
1986-89	Van	2.2L I4

4.0 TEST MODES AVAILABLE

The Asian Imports Cartridge provides the following diagnostic test modes. Not all vehicles are equipped with electronic systems capable of using all of the test modes. Refer to the charts on the following pages for a list of tests available for each vehicle. Only test modes available for the selected vehicle system are displayed in the Select Mode menu.

AVAILABLE TEST MODES:

F0: DATA LIST Displays diagnostic data parameters in pre-selected or user selected pairs.

F1: DTC ENTRY The DTC Entry mode is designed for vehicles that have On Board Diagnostics (OBD) capability, but do not have a Data Link Connector (DLC). The DTC Entry mode has five submodes:

Submode F0: HOW TO READ displays information about how to set the vehicle controller in the mode so you can manually read stored DTCs.

Submode F1: ENTER DTC(s) allows you to input a DTC to the tester that was manually read from ECU LEDs, analog voltmeter, or the vehicle Malfunction Indicator Lamp (MIL). The DTC description is then displayed on the tester screen.

Submode F2: DTC LIST allows you to scroll through a list of DTCs applicable to the vehicle being tested.

Submode F3: REVIEW DTC allows you to review DTCs that have been selected or entered into the tester memory.

Submode F4: CLEAR DTC(s) displays information about how to clear the DTCs from the vehicle being tested, or from the tester memory.

F2: DTC

The DTC mode is designed for vehicles that have On Board Diagnostics (OBD) capability, and have a Data Link Connector (DLC). The DTC mode has four submodes:

Submode F1: READ DTCs reads and displays stored Diagnostic Trouble Codes stored in the ECU. (On Inactive Toyota or Lexus systems, this Submode is F1: READ/ ENTER DTCs.)

Submode F2: DTC LIST allows you to scroll through a list of DTCs applicable to the vehicle being tested.

Submode F3: REVIEW DTC allows you to review DTCs that have been selected or entered into the tester memory.

Submode F4: CLEAR DTC(s) automatically clears ECU DTCs or describes how to clear DTCs from the vehicle being tested, or clears DTCs from the tester memory.

Submode F5: SENSITIVE DTC for Toyota and Lexus vehicles commands the engine ECU to check the system more frequently for the environment required to set DTCs. The increased sensitivity is more efficient for identifying intermittent problems.

F3: SNAPSHOT

Records data before and after the occurrence of an intermittent trouble condition. Trigger conditions are selectable and include trigger on a specific DTC, any DTC, or by a manual key press.

F4: OBD CONTROLS Allows manufacturer dependent test for specialized diagnostics. Tests available for each vehicle are described in the manufacturer specific sections.

F5: SYSTEM TESTS This mode is used to select a submenu for vehicle preparation prior to testing.

F8: INFORMATION This mode contains submodes with information about ECU, DLC, SCC and DJC locations. It also contains vehicle ID information.

TEST MODES AVAILABLE

Following is a list of test modes available for each manufacturer. Only test modes available for the selected vehicle are displayed in the test mode menus. The functions and operating procedures for each test mode are described in the Common Test Modes section.

MAKE	DATA LIST	READI-NESS	DTC ENTRY	DTC	SNAP-SHOT	OBD CONTROLS	SYSTEM TESTS	INFOR-MATION	ENHANCED MODE*	PRINT MODE**
ACURA			•				•	•		•
CHRY IMP	+	+	•	•+	+	+	•+	•+	+	•+
DAIHATSU			•				•	•		•
HONDA			•				•	•		•
HYUNDAI	+	+	•	•+	+	+	•+	•+	+	•+
INFINITI	+	+	•	+	+	+	•+	•+	+	•+
KIA			•				•	•		•
LEXUS	•			•	•		•	•	•	•
MAZDA	+	+	•	•+	+	•+	•+	•+	+	•+
MITSUBISHI	+	+	•	•+	+	+	•+	•+	+	•+
NISSAN	+	+	•	•+	+	•+	•+	•+	+	•+
SUBARU	+	+	•	+	+	+	•+	•+	+	•+
TOYOTA	•			•			•	•	•	•

* The Enhanced Mode is a Mastertech function that provides expanded data list display capabilities.

** Print Mode supports Data List, Snapshot and current or available DTCs, when using the optional VP-411 printer.

• OBD & OBD I

+ OBD II

Note: Isuzu and Suzuki Test Modes are described in the Isuzu and Suzuki Operator's Manuals.

4.1 SYSTEM TESTS AVAILABLE

System Tests Mode is available for each make of vehicle.

System Tests contains submode F0: Prep Vehicle. This submode gives instructions for proper vehicle preparation prior to testing to ensure accurate test results.

4.2 OBD CONTROLS AVAILABLE

VEHICLE	OBD CONTROLS SUBMODES
MAZDA	F0: Switch Test F1: O2S Monitor
NISSAN	F0: AFR Monitor A F1: AFR Monitor B F2: Switch Test F3: RT DTC Monitor
All Asian Manufacturers with OBD II compliant Powertrain systems that support this control.	F0: EVAP Leak

Note: Isuzu and Suzuki OBD Controls are described in the Isuzu and Suzuki Operator's Manuals.

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5.0 GETTING STARTED

Before operating the ASIAN IMPORTS CARTRIDGE the following steps must be performed:

1A. **TECH 1 OR TECH 1A TESTER**
Insert the cartridge into the Master Cartridge slot on the bottom of the tester. (Verify that no other "Master" cartridge is installed in the top slot). Refer to the TECH 1 or TECH 1A Operator's Manual for further information.

1B. **MASTERTECH TESTER**
Insert the cartridge into the slot at the top of the tester. Refer to the Mastertech Operator's Manual for further information. Make sure the tester is turned OFF.

When testing Lexus/Toyota and OBD II compliant vehicles, the Asian Imports Cartridge can also be operated in Enhanced Mode when a program card is installed in the Mastertech. Refer to the Program Card Operator's Manual for Enhanced Mode operating instructions.

2. Connect the DLC cable to the tester and tighten the screws.

Note: The DLC cable is not required when testing Acura, Daihatsu, and Honda vehicles. It is also not required when testing select vehicles by the following manufacturers: Chrysler Imports, Hyundai, Mitsubishi, Infiniti, Kia, Nissan, and Subaru. Refer to the manufacturer specific instruction sections for further details.

3. Connect the DC Power Cable to the end of the DLC cable.

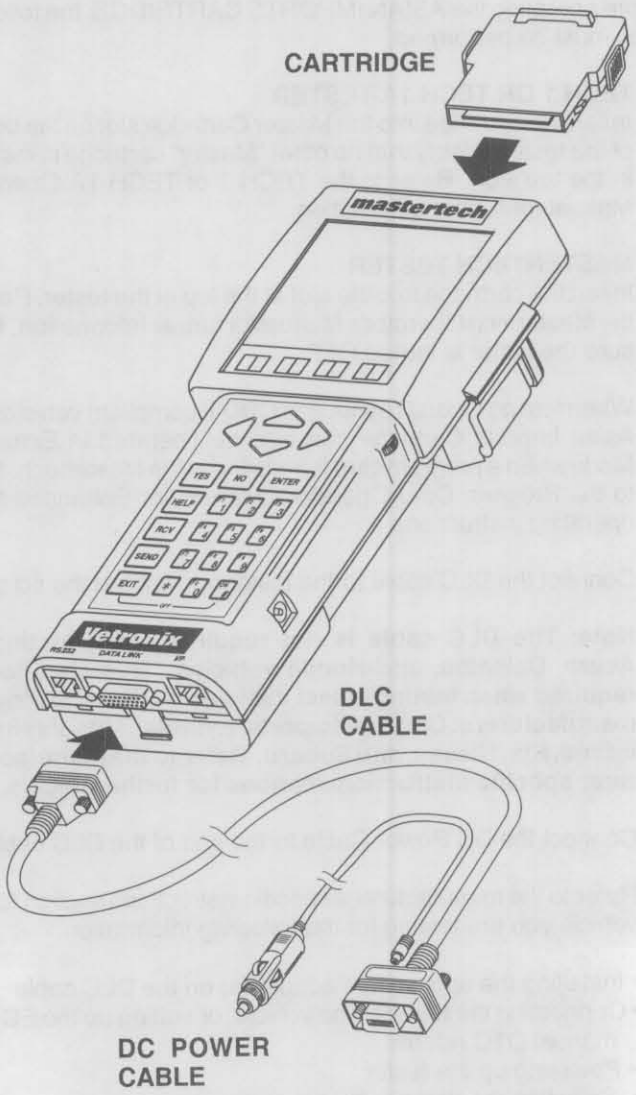
4. Refer to the manufacturer's specific instructions section for the vehicle you are testing for the following information:

- Installing the appropriate adapter(s) on the DLC cable
- Connecting the tester to the vehicle, or setting up the ECU for manual DTC referral.
- Powering up the tester
- Selecting the vehicle you are testing

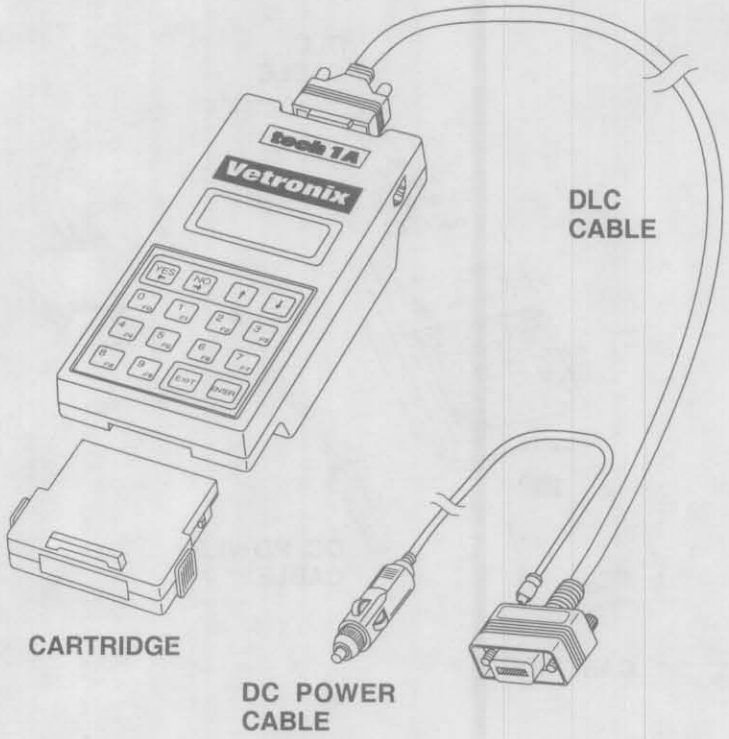
5. When the Select Mode menu is displayed, refer to the Common Test Modes section to select and operate the test modes.

GENERAL INFORMATION

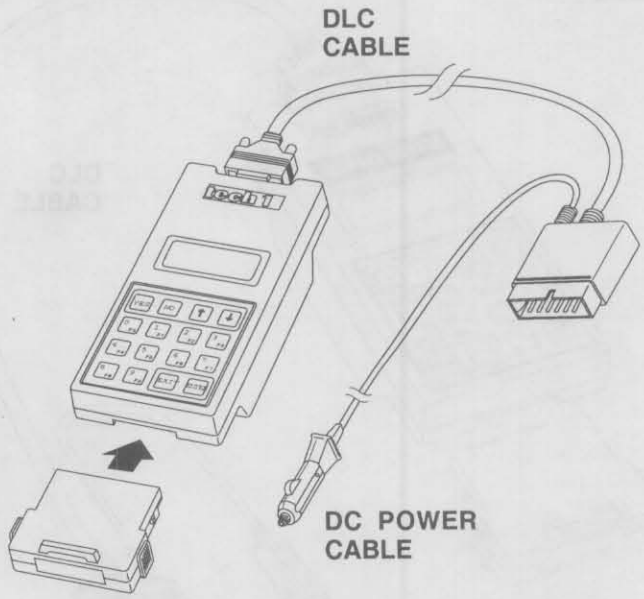
MASTERTECH TESTER, CARTRIDGE AND CABLES



TECH 1A TESTER, CARTRIDGE AND CABLES



TECH 1 TESTER, CARTRIDGE AND CABLES



COMMON TEST MODES

OBD, OBD I SYSTEMS

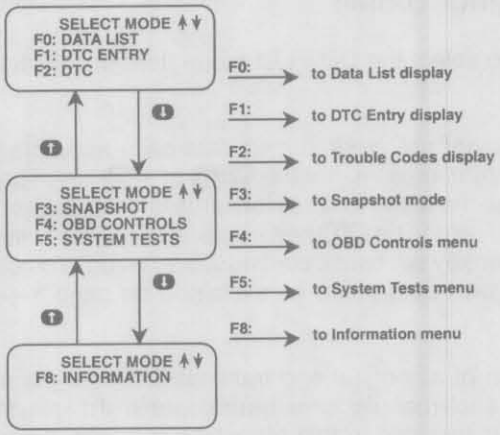
Printed in USA 1/99
Manual P/N 08001891

COMMON TEST MODES

SELECTING TEST MODES

The Asian Imports Cartridge makes selecting a test mode easy by displaying a "Test Mode Menu." To select a test mode, simply press the tester key listed to the left of the test mode on the menu.

The tester automatically scrolls up to three test modes at a time. Pressing the ↓ key turns off the automatic scrolling and "freezes" the menu. The menu may then be manually scrolled by pressing the ↑ key. Regardless of which test modes are displayed, any available test mode can be selected at any time from the menu.



When F4: OBD Controls mode is selected, a submenu of specific tests available for the selected vehicle is displayed. The tester displays only the test modes available for the selected vehicle.

Once you have selected a test mode, operation begins. Detailed operating instructions for each test mode are provided in the following sections.

ACTIVE KEYS	
F0 - F9	Select test modes and submodes.
↑	Scroll menu down.
↓	"Freeze" menu .
EXIT	Return to the Select Mode menu, or to the OBD Controls menu.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F0	DATA LIST

The purpose of the Data List mode is to monitor engine or transmission data parameters. When Data List is selected, the tester displays ECU data parameters in pre-programmed pairs. You can also create your own pairs.

If you are using a Mastertech tester and the Multi-Function Program Card is installed, the Enhanced mode is available when testing Lexus and Toyota vehicles.

OPERATING PROCEDURE:

1. Press F0 to select the Data List mode from the Select Mode menu.

2. To see the other pre-programmed data pairs available for the selected system, press either the YES or NO key. The YES key will cause the tester to scroll forwards through the list of pre-programmed pairs. The NO key will cause backwards scrolling. Holding either key will cause continuous scrolling. You can also create your own data pairs, as explained on page 1-4 of this section.

   A description of all engine and transmission data parameters available for each manufacturer that is capable of displaying data parameters is included in that Manufacturer's specific section. Not all data parameters are transmitted by every vehicle.

3. The data parameters can be printed if the tester is connected to a compatible serial printer.

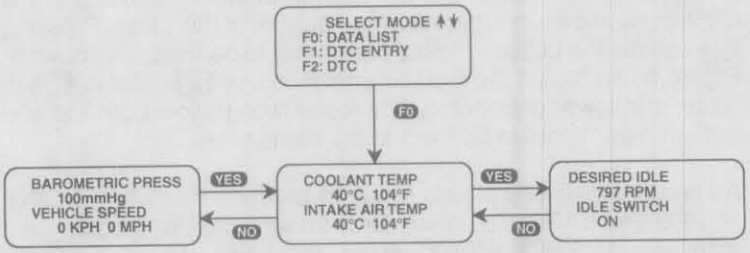
   Refer to the tester operator's manual for instructions on connecting the printer to the tester and printing the data parameters.

4. You may return to the Select Mode menu at any time by pressing EXIT.

DATA LIST	MODE F0

An example of the operation of the Data List mode is summarized in the flow diagram below. The data displayed may be different for the selected vehicle.

DATA LIST MODE



MODE F0	DATA LIST

CREATE YOUR OWN DATA PAIRS

You can create data parameter pairs different from the pre-programmed pairs. Any two parameters that can be monitored can be made into a pair.

New data pairs are created simply by scrolling either the bottom or top display parameter, while the other display parameter is fixed. Pressing F0 causes the top display parameter to be fixed, which is indicated with a "*" in the left column of the second line of the display, as shown in Figure A at the bottom of this page. Pressing F1 causes the bottom display parameter to be fixed, as shown in Figure B. To "unfix" the top parameter, press F1 . Press F0 to "unfix" the lower parameter. The tester won't allow both top and bottom parameters to be fixed at the same time.

As an example, let's say you wish to create a pair with ENGINE SPEED and BARO. To do so, scroll through the pre-programmed pairs with the YES or NO key until you find a pair with ENGINE SPEED. Fix ENGINE SPEED by pressing F0 if ENGINE SPEED is the top parameter, F1 if it is the bottom. Then scroll the other half of the display with either the YES or NO key until BARO is displayed.

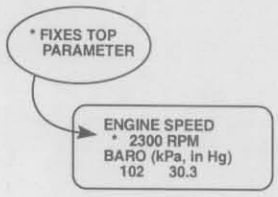


Figure A

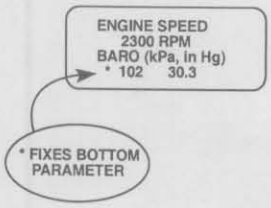
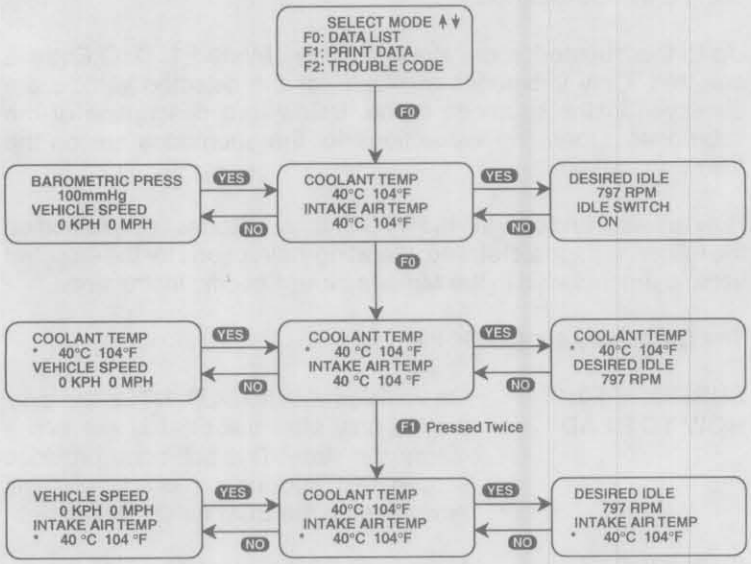


Figure B

DATA LIST	MODE F0

DATA LIST MODE



ACTIVE KEYS	
YES NO	Scroll through displayed data parameters.
F0	Mark top displayed parameter as "fixed" for creating your own data pairs.
F1	Mark bottom displayed parameter as "fixed" for creating your own data pairs.
EXIT	Return to test mode menu.

MODE F1	DTC ENTRY

The DTC Entry mode is designed for vehicles that are equipped with On Board Diagnostics, which require DTCs to be read from the ECU using a manual method.

Up to five submodes are available when Mode F1: DTC Entry is selected. Only submodes available for the selected vehicle are displayed in the submode menu. Below is a description of the submodes. Operating instructions for the submodes are on the following pages.

How to select and operate the DTC Entry submodes is explained on the following pages. Detailed operating instructions for the selected vehicle are included in the Manufacturer Specific Instructions.

The DTC Entry submodes include:

SUBMODE F0: HOW TO READ

On vehicles with no DLC, DTCs are displayed only after the ECU is put into a diagnostic state. This submode provides screen text information which explains how to setup the ECU for DTC retrieval.

SUBMODE F1: ENTER DTC(s)

Most early OBD systems do not have a DLC, so the codes must be manually read from the ECU LEDs, from an analog voltmeter, or from the dashboard mounted Malfunction Indicator Lamp (MIL). After codes are obtained using information provided in submode F0: HOW TO READ, the codes may be entered into the tester in Submode F2: ENTER DTCs, and the tester displays a description of the code.

DTC ENTRY	MODE F1

SUBMODE F2: DTC LIST

The tester displays a list of DTCs available for the selected vehicle. From this list the DTC obtained using F0: HOW TO READ can be selected (or deselected), using the YES and NO keys without the need to enter the DTC numerically.

SUBMODE F3: REVIEW DTC

The REVIEW DTC submode displays DTCs that have been entered or selected and stored in the tester memory.

SUBMODE F4: CLEAR DTC(s)

Clearing DTCs from ECUs on import vehicles sometimes requires special manual steps not related to the tester. The Clear DTC menu has a selection for clearing DTCs from the selected vehicle (e.g. removing a certain fuse or disconnecting the battery).

The Clear DTC submode also contains a selection for clearing DTCs entered into the tester memory.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F1	DTC ENTRY
SUBMODE F0	HOW TO READ

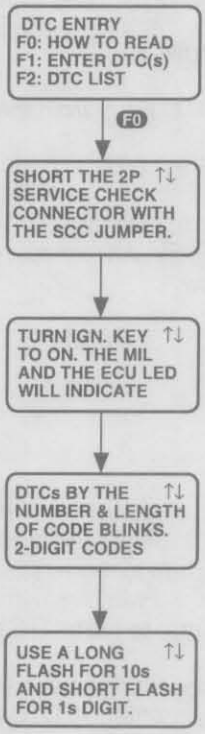
The How To Read submode explains how to set up the selected vehicle to display stored DTCs on the dashboard Malfunction Indicator Lamp (MIL). Once the DTCs are displayed, you can enter the code numbers into the tester, as described in submode F1: ENTER DTC, for a description of the code.

OPERATING PROCEDURE:

1. Press F1 to select DTC Entry from the Select Mode menu.
2. Press F0 to select How To Read from the DTC Entry menu.
3. Use the ↑ key to scroll through the How to Read DTC instructions. Press ↓ to hold a display.
4. For some vehicles that require you to watch the flashing LEDs on the ECU, the tester gives you the option of displaying the location of the ECU. If you are in doubt about the location of the ECU press F8 to select Information from the Select Mode menu, then press F5 to select ECU Location.
5. Examples of How To Read DTC displays are on the following page. Remember, the displays may be different for the vehicle you are testing.
6. Press EXIT to return to the DTC Entry menu.

DTC ENTRY	MODE F1
HOW TO READ	SUBMODE F0

EXAMPLE OF HOW TO READ DTCs DISPLAYS



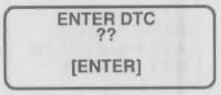
ACTIVE KEYS	
↑	Scroll through displayed instructions.
↓	Holds a displayed screen.
EXIT	Return to DTC Entry menu.

MODE F1	DTC ENTRY
SUBMODE F1	ENTER DTC(s)

The Enter DTC submode displays a description of DTCs entered into the tester memory. A list of DTC numbers available for the selected vehicle is available by using submode F2: DTC LIST.

OPERATING PROCEDURE:

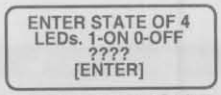
1. Press F1 to select DTC Entry from the Select Mode menu.
2. Press F1 to select Enter DTC(s) from the DTC Entry menu.
3. Use the tester keypad to enter the DTC displayed on the vehicle ECU, then press ENTER. An example of the Enter DTC display screen is shown below.



ECU LED

Some Honda and Acura vehicles have a single ECU mounted LED that flashes DTCs. Refer to the Honda and Acura specific sections that describe how to read DTCs on ECU mounted LEDs. In addition, some Subaru vehicles use an ECU mounted single LED (O2S monitor lamp) to flash DTCs.

1985-86 model Honda vehicles have four ECU mounted LEDs that flash DTCs. When entering DTCs for these vehicles, the tester displays a flashing "?" where the state of the LED is to be entered. Press 1 if the LED is on or press 0 if the led is off. Repeat this process until all four digits have been entered, then press ENTER.



Some Nissan vehicles have two ECU mounted LEDs that flash DTCs and some Nissan and Infiniti vehicles have a single ECU mounted LED that flashes DTCs. Refer to the Nissan and Infiniti specific sections that describe how to read DTCs on ECU mounted LEDs.

DTC ENTRY	MODE F1
ENTER DTC(s)	SUBMODE F1

MALFUNCTION INDICATOR LAMP (Check Engine Light)

Late model Acura, Chrysler Imports, Honda, Hyundai, Infiniti, Nissan, Mitsubishi, and Subaru vehicles have an instrument panel malfunction indicator lamp (MIL) that flashes DTCs. In addition, all Daihatsu and Kia vehicles use a MIL for DTC output. Refer to the manufacturer specific section that describes how to read DTCs from the MIL.

ANALOG VOLTMETER

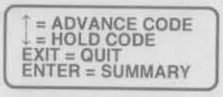
Some Chrysler Imports, Mitsubishi, and Hyundai vehicles require the use of an analog voltmeter to read DTCs. In this case, the meter is set to the 20 volt scale and meter needle sweeps are counted. Refer to the manufacturer specific section that describes how to read DTCs using an analog voltmeter.

MASTERTECH OSCILLOSCOPE

For the automobile manufacturers that mention the use of an analog voltmeter to read manual DTCs, the Mastertech Oscilloscope may be used. Set up the single channel oscilloscope and make connections the same way as the analog voltmeter (above). Choose the 20v/division scale and a slow time/division (e.g. 1-2 sec/division)—the DTCs will be shown as a waveform on the display.

4. When ENTER is pressed, the tester displays the DTC number and a short description of the code.

5. After you enter the DTC, the tester asks for additional trouble code entry. Press YES to enter another DTC. If NO is pressed, the tester displays an instruction screen describing the functions available.



MODE F1	DTC ENTRY
SUBMODE F1	ENTER DTC(s)

6. Press ↑ to move to the next DTC. If you wish to hold a DTC screen, press ↓ to freeze the automatic scrolling feature.

```
DTC 03
MAP SENSOR
VOLTAGE FAULT
```

7. Press ENTER to view a summary screen of all entered DTCs.

```
DTC SUMMARY
XX XX XX XX XX
XX XX XX XX XX
```

8. Press EXIT to return to the DTC Entry menu.

ACTIVE KEYS	
ENTER	Enter the displayed DTC.
YES	Enter another DTC.
NO	Advance to instruction screen.
F0 - F9	Enter DTC number.
↑	Move to the next DTC.
↓	Stop the automatic scrolling.
EXIT	Return to DTC Entry menu.

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COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F1	DTC ENTRY
SUBMODE F2	DTC LIST

The DTC List submode provides a list of all DTC numbers and a description of each DTC available for the selected vehicle. DTCs may be selected by pressing the YES key, or deselected by pressing the NO key. The entire DTC list can be printed, if the tester is connected to a compatible serial printer.

OPERATING PROCEDURE:

1. Press F1 to select DTC Entry from the Select Mode menu.
2. Press F2 to select DTC List from the DTC Entry menu.
3. An instruction screen explains how to view, select, and deselect the DTCs. Press ↑ to display the DTC List.
4. Use the ↑ and ↓ keys to scroll through the DTCs.
5. Press YES to select a displayed DTC. "SELECTED" is displayed at the bottom of the screen. To deselect a DTC, press NO when the code is displayed.
6. Press F8 to print the entire DTC list.
7. Press EXIT to return to the DTC Entry menu.

DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

EXAMPLE OF DTC LIST DISPLAYS

ACTIVE KEYS	
↑ ↓	Scroll through displayed DTCs.
YES	Select displayed DTC.
NO	Deselect a selected DTC.
F8	Print available DTC list.
EXIT	Return to DTC Entry menu.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F1	DTC ENTRY
SUBMODE F3	REVIEW DTC

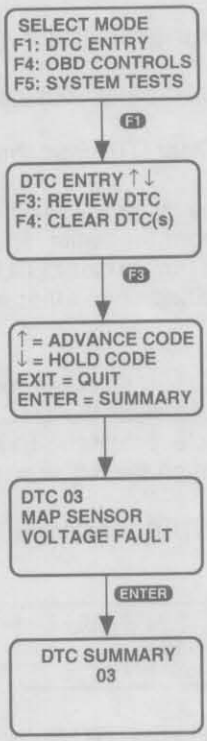
The Review DTC submode displays a list of DTCs stored in the tester memory. The list of DTCs can be printed, if the tester is connected to a compatible serial printer.

OPERATING PROCEDURE:

1. Press F1 to select DTC Entry from the Select Mode menu.
2. Press F3 to select Review DTC from the DTC Entry menu.
3. An instruction screen explains how to view the DTCs. Press ↑ to display the stored DTCs.
4. The DTC number is displayed on the first line, followed by a description of the DTC. Press ↑ to advance to the next code, or press ↓ to hold the displayed code.
5. When all DTCs have been displayed, press ENTER to display a summary screen of all entered DTCs.
6. Press F8 to print a list of selected (current) DTCs.
7. Press EXIT to return to the DTC Entry menu.

DTC ENTRY	MODE F1
REVIEW DTC	SUBMODE F3

EXAMPLE OF REVIEW DTC DISPLAYS



ACTIVE KEYS	
↑ ↓	Advance to next DTC or hold displayed DTCs.
ENTER	Display summary screen.
F8	Print entered or selected (current) DTCs.
EXIT	Return to DTC Entry menu.

MODE F1	DTC ENTRY
SUBMODE F4	CLEAR DTC(s)

The Clear DTC submode allows you to clear all DTCs stored in the tester, and displays instructions for clearing active DTCs stored in the vehicle ECUs.

OPERATING PROCEDURE:

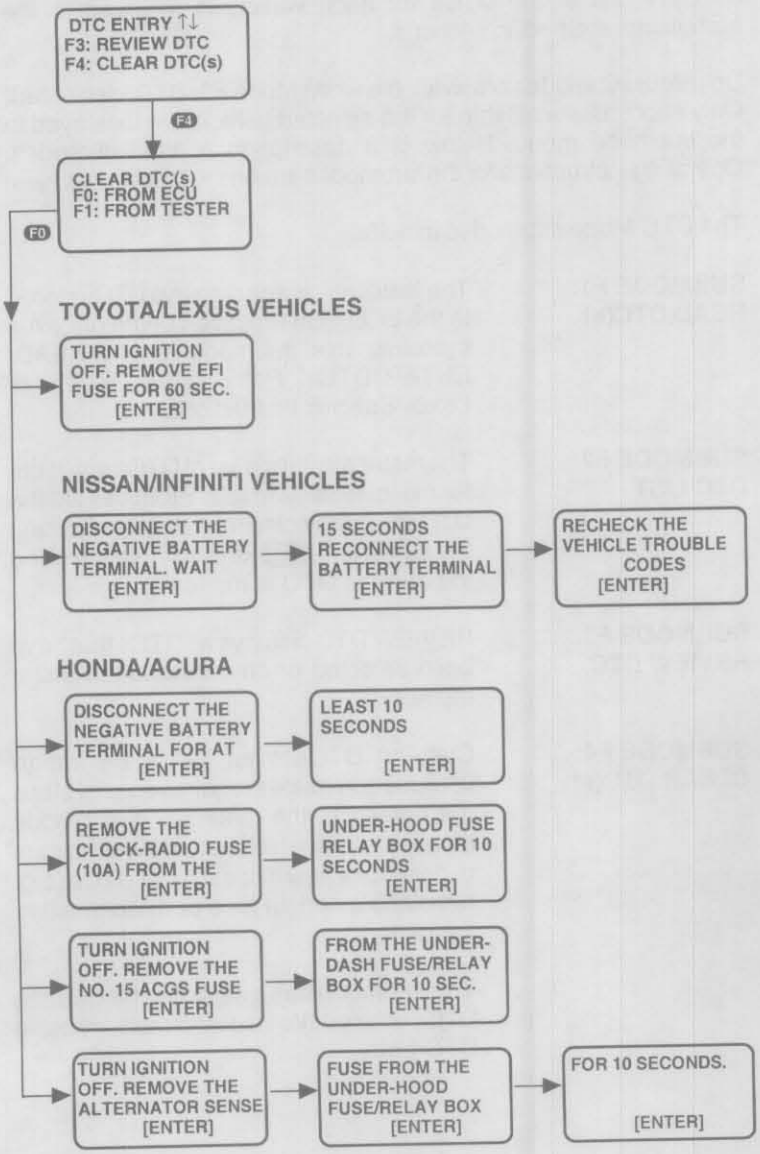
1. Press F1 to select DTC Entry from the Select Mode menu.
2. Press F4 to select Clear DTC from the DTC Entry menu.
3. For some vehicles, the tester will ask if you want to clear codes from the vehicle or from the tester. Press F0 for information screens that describe how to clear ECU codes, or press F1 to clear entered or selected codes that are stored in the tester memory.
4. When F0: FROM ECU is selected, one or more instruction screens explain how to clear the DTCs. The instructions are specific to the vehicle selected. Examples of Clear DTC instructions are shown on the following page.
5. When F1: FROM TESTER is selected, the DTCs stored in the tester are cleared.

6. Press EXIT to return to the DTC Entry menu.

ACTIVE KEYS	
F0	Display how to clear ECU codes information.
F1	Clear codes stored in tester memory.
ENTER	Return to DTC Entry menu.
EXIT	Return to DTC Entry menu.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

EXAMPLES OF CLEAR DTC INSTRUCTIONS



COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F2	DTC(s)

The purpose of the F2: DTC test mode is to read DTCs stored in the ECU on supported vehicles equipped with a Data Link Connector (DLC). A list of the DTCs for each vehicle is included in the Manufacturer Specific sections.

Up to four submodes are available when Mode F2: DTC is selected. Only submodes available for the selected vehicle are displayed in the submode menu. Below is a description of the submodes. Operating instructions for the submodes are on the following pages.

The DTC Mode submodes include:

SUBMODE F1: READ DTC(s)

The tester reads and displays DTCs stored in the ECU. (On Inactive Toyota or Lexus systems, this submode is F1: READ/ ENTER DTCs. Refer to the Toyota or Lexus Specific Instructions.)

SUBMODE F2: DTC LIST

The tester displays a list of DTCs available for the selected vehicle. From this list the DTC can be selected (or deselected), using the YES and NO keys without the need to enter the DTC numerically.

SUBMODE F3: REVIEW DTC

REVIEW DTC displays all DTCs that have been selected or entered into the tester memory.

SUBMODE F4: CLEAR DTC(s)

Clearing DTCs from ECUs on import vehicles sometimes requires special steps not related to the tester. This submode has a selection which automatically clears or describes how to clear ECU DTCs (e.g. removing a certain fuse or disconnecting the battery).

This submode has a selection for clearing DTCs entered into the tester memory using DTC Entry.

DTC(s)	MODE F2

SUBMODE F5: SENS DTC

On certain Toyota and Lexus vehicles, the engine ECU can be commanded into a Sensitive DTC detection mode. This sub mode increases the chance of capturing an intermittent fault within the engine control system.

MODE F2	DTC(s)
SUBMODE F1	READ DTC(s)

The purpose of the Read DTC submode is to read DTCs stored in the ECU on vehicles equipped with On Board Diagnostics (OBD) and a Data Link Connector (DLC).

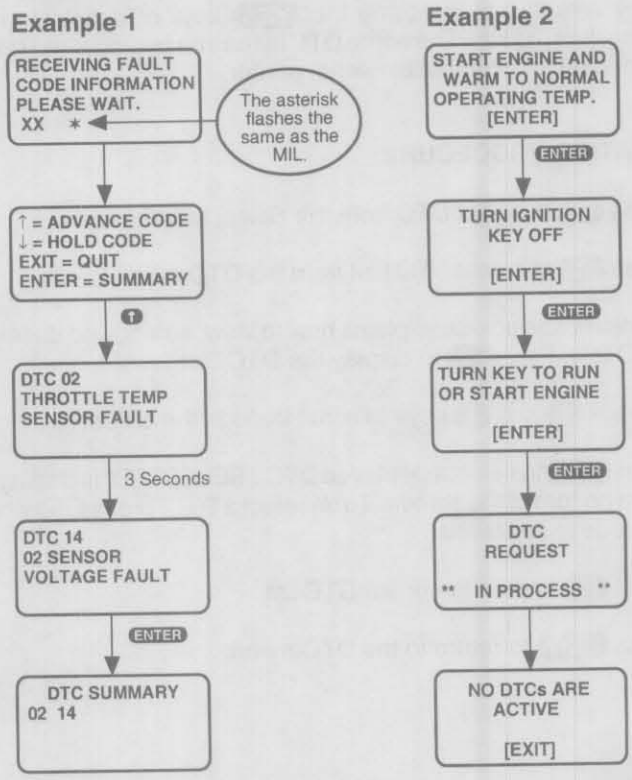
Lists of the DTCs for each vehicle are included in the Manufacturer Specific Sections of this manual.

OPERATING PROCEDURE:

1. Press F2 to select DTCs from the Select Mode menu.
2. Press F1 to select Read DTCs from the DTC Menu.
3. The tester will display screens such as in the examples on the following page. The tester may display instruction screens to guide you to connect the appropriate adapter and to properly prepare the vehicle.
4. If no codes are present, the tester informs you. Press EXIT to return to the Select Mode menu.
5. If DTCs are present, the tester displays an instruction screen for reading the DTCs. Press ↑ to display the first code.
6. The tester automatically displays each code and a description for three seconds. An example is shown on the following page. Remember that the DTCs displayed will be different depending on the vehicle selected.
7. A DTC can be 'held' by pressing the ↓ key while the code is displayed. This gives you more time to record the code. Press the ↑ key to resume display of the DTCs.
8. Press ENTER to display a summary of the DTCs.
9. Press F8 to print a list of the DTCs read by the tester.
10. Press EXIT to terminate the Read DTC mode and return to the Select Mode menu.
11. To clear the codes, select F4: Clear DTC(s) from the Select Mode menu. Refer to Submode F4 for instructions on clearing the DTC(s).

DTC(s)	MODE F2
READ DTC(s)	SUBMODE F1

EXAMPLES OF READ DTC(s)



ACTIVE KEYS	
↑	Advance display to next DTC.
↓	Holds presently displayed DTC.
ENTER	Displays DTC summary.
F8	Prints list of current DTCs.
EXIT	Return to Select Mode menu.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F2	DTC(S)
SUBMODE F2	DTC LIST

The DTC List submode provides a list of all DTC numbers and a description of each DTC available for the selected vehicle. DTCs may be selected by pressing the YES key, or deselected by pressing the NO key. The entire DTC list can be printed, if the tester is connected to a compatible serial printer.

OPERATING PROCEDURE:

1. Press F2 to select DTC from the Select Mode menu.
2. Press F2 to select DTC List from the DTC menu.
3. An instruction screen explains how to view, select, and deselect the DTCs. Press ↑ to display the DTC List.
4. Use the ↑ and ↓ keys to scroll through the DTCs.
5. Press YES to select a displayed DTC. "SELECTED" is displayed at the bottom of the screen. To deselect a DTC, press NO when the code is displayed.
6. Press F8 to print the entire DTC list.
7. Press EXIT to return to the DTC menu.

DTC(S)	MODE F2
DTC LIST	SUBMODE F2

EXAMPLE OF DTC LIST DISPLAYS

ACTIVE KEYS	
↑ ↓	Scroll through displayed DTCs.
YES	Select displayed DTC.
NO	Deselect a selected DTC.
F8	Print available DTC list.
EXIT	Return to DTC Entry menu.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F2	DTC(s)
SUBMODE F3	REVIEW DTC

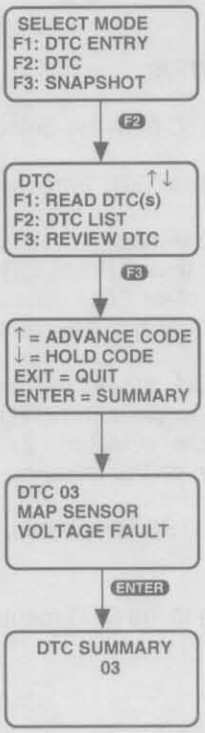
The Review DTC submode displays a list of DTCs that have been entered or selected. The DTCs can be printed, if the tester is connected to a compatible serial printer.

OPERATING PROCEDURE:

1. Press F2 to select DTC Entry from the Select Mode menu.
2. Press F3 to select Review DTC from the DTC menu.
3. An instruction screen explains how to view the DTCs. Press ↑ to display the stored DTCs.
4. The DTC number is displayed on the first line, followed by a description of the DTC. Press ↑ to advance to the next code, or press ↓ to hold the displayed code.
5. When all DTCs have been displayed, press ENTER to display a summary screen of all entered DTCs.
6. Press F8 to print entered or selected (current) DTCs.
7. Press EXIT to return to the DTC Entry menu.

DTC(s)	MODE F2
REVIEW DTC	SUBMODE F3

AN EXAMPLE OF REVIEW DTC INSTRUCTIONS



ACTIVE KEYS	
↑	Advance to next DTC.
↓	Hold displayed DTC.
ENTER	Display summary screen of entered DTCs.
F8	Print entered or selected (current) DTCs.
EXIT	Return to DTC Entry menu.

COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F2	DTC(s)
SUBMODE F4	CLEAR DTC(s)

The Clear DTC submode allows you to clear all DTCs stored in the tester, and provides instructions for clearing active DTCs stored in the vehicle ECU.

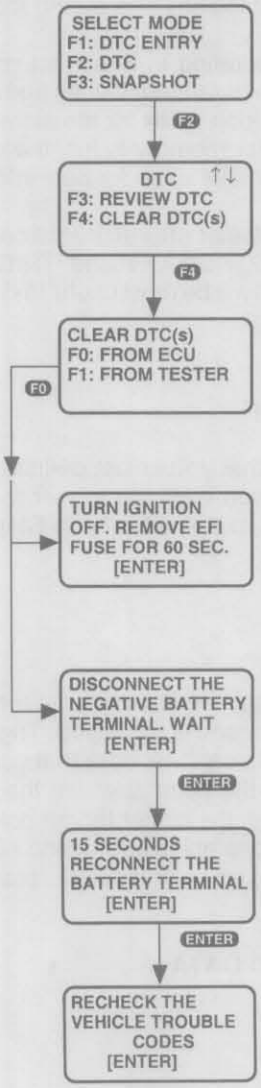
OPERATING PROCEDURE:

1. Press F2 to select DTC from the Select Mode menu.
2. Press F4 to select Clear DTC from the DTC menu.
3. For some vehicles, the tester asks if you want to clear codes from the vehicle or from the tester. Press F0 for information screens that describe how to clear ECU codes, or press F1 to clear entered or selected codes that are stored in the tester memory.
4. When F0: FROM ECU is selected, one or more instruction screens explain how to clear the DTCs. The instructions are specific to the vehicle selected. Examples of Clear DTC instructions are shown on the following page.
5. When F1: FROM TESTER is selected, the DTCs stored in the tester are cleared.
6. Press EXIT to return to the DTC menu.

ACTIVE KEYS	
F0	Display how to clear ECU codes information.
F1	Clear codes stored in tester memory.
ENTER	Return to DTC menu.
EXIT	Return to DTC menu.

DTC(s)	MODE F2
CLEAR DTC(s)	SUBMODE F4

EXAMPLES OF CLEAR DTC INSTRUCTIONS



MODE F3	SNAPSHOT

The purpose of the Snapshot test mode is to help you isolate an intermittent or transient problem by storing engine data parameters before and/or after the problem occurs. The Snapshot test mode can be used in the service bay and during road testing.

When the tester is operating in Snapshot mode, it is constantly storing diagnositic data parameter values and any available trouble codes. A time and position index for the stored information is also saved. When the tester memory is full, the oldest (earliest) data collected is erased to make room for new information.

A "TRIGGER" tells the tester when to freeze collected data. You can specify a "TRIGGER CONDITION" and "TRIGGER POINT" so the tester collects data that will be most useful in diagnosing the current problem.

TRIGGER CONDITION

The trigger condition that you select defines the specific circumstances under which you want the trigger to be set. The various trigger conditions are explained fully in Step 2 of the operating procedures.

TRIGGER POINT

If F9: TRIG. POINT is selected from the Snapshot Options menu, a trigger point selection menu is displayed. Trigger Point allows you to specify which data to capture: data that occurs before, after, or both before and after the point at which the trigger occurs. If no trigger point is selected, the center trigger point will be used and a similar number of data samples before and after the trigger will be saved. Selecting a trigger point is fully explained in Step 2 of the operating procedures.

VIEWING CAPTURED DATA

SNAPSHOT	MODE F3

By selecting F3: REPLAY DATA from the Snapshot menu you have the option of bypassing the Data Capture phase and displaying previously captured data. All data captured during Snapshot will be retained in the tester memory for up to 24 hours (even if the tester is unplugged from the vehicle), or until it is overwritten by a new Snapshot.

PRINTING CAPTURED DATA

In addition, you can print the captured data, providing a hard copy of any selected data sample. See Step 11 for more detail.

OPERATING PROCEDURE

The operation of Snapshot mode is divided into four phases: Set-Up (Steps 1-2), Data Capture (Steps 3-6), and Data Display (Steps 7-12).

MODE F3	SNAPSHOT

SETUP PHASE

1. Press F3 to select Snapshot mode from the Select Mode menu.

   The Snapshot functions are listed in the Snapshot Options menu. To bypass the Data Capture phase and review previously captured Snapshot data, press F3: REPLAY DATA.

2. To select a Snapshot option, press the key listed to the left of the desired function. The Snapshot functions are explained below:

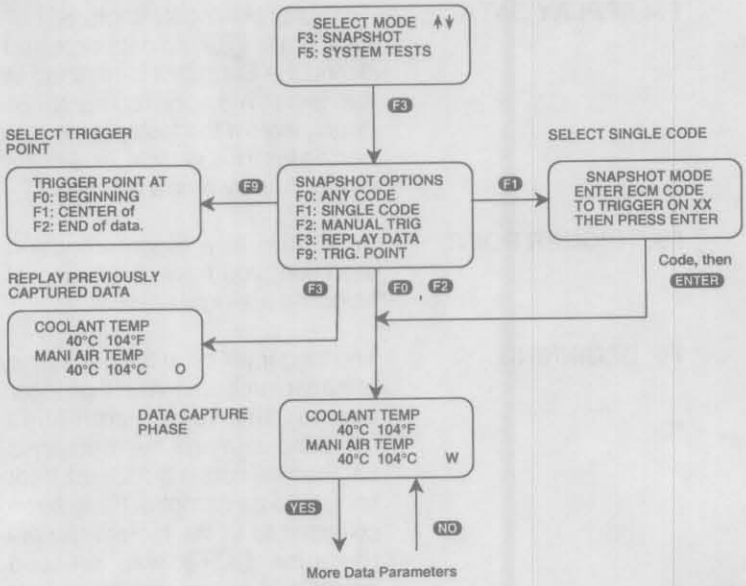
F0: ANY CODE — A trigger occurs when any trouble code is set. An F9 or EXIT key press also causes a trigger.

F1: SINGLE CODE — You can select a specific trouble code that must be detected before the trigger will be set. When F1: SINGLE CODE is selected, the tester displays "SNAPSHOT MODE, ENTER TROUBLE CODE XX, (CODE + ENTER)". Use numeric keys 0 - 9 to enter the trouble code number that you wish to cause the trigger, then press ENTER. The tester continues to store data until the specified trouble code is detected. If the code you enter does not exist for the engine type being tested, an "INVALID CODE" message will be displayed and the code will have to be reentered. An F9 or EXIT key press will also cause a trigger.

F2: MANUAL TRIGGER — While operating the Snapshot mode, you can always cause the trigger to be set by pressing ENTER, EXIT or F9.

SNAPSHOT	MODE F3

SNAPSHOT SETUP PHASE



MODE F3	SNAPSHOT

SNAPSHOT SETUP PHASE (Select Snapshot function)

F3: REPLAY DATA

To replay previously captured data, press F3. All data captured during the Snapshot is retained in the tester memory for up to 24 hours, even if the tester is disconnected from the vehicle, or until it is overwritten by a new Snapshot.

F9: TRIGGER POINT

In addition to a trigger condition selection, you have the option of selecting a trigger point.

F0: BEGINNING

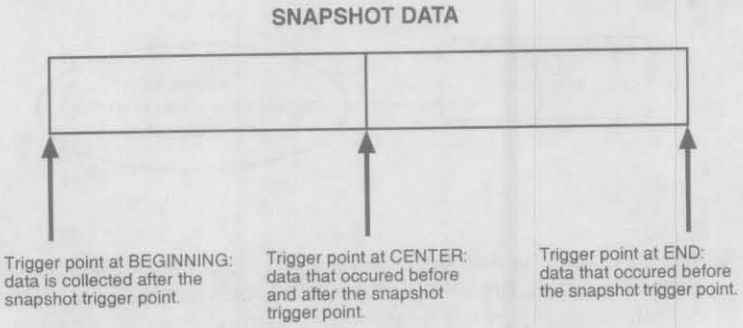
The trigger will be at the beginning of the captured data. After the trigger occurs, the tester continues capturing data until the memory is full, then the data is displayed. If not enough data samples have been collected to fill the tester memory (because EXIT was pressed before the tester memory was full), some data samples captured before the trigger point will also be available for display.

F1: CENTER

If enough time has elapsed before and after the trigger point, a similar number of data samples that occurred before and after the trigger point are available for display. However, if the trigger occurs at or near the start of the Data Capture phase, there are fewer samples before the trigger point available for display. Also, if the EXIT key is pressed after the trigger occurs, but before the tester memory is full, fewer data samples captured after the trigger point are available for display.

SNAPSHOT | MODE F3

F2: END OF DATA Data that occurred before the trigger is displayed. If the tester memory was not full when the trigger occurred, some data samples captured after the trigger point are also available for display.



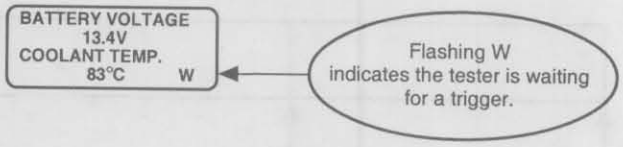
ACTIVE KEYS - SET UP PHASE

F0 - F9	Select Snapshot Function.
0 - 9	Enter specific trouble code digits.
F9	Manual trigger.
ENTER	Enter selected trouble code. Cause trigger during data capture.
EXIT	Terminate Snapshot mode and return to Select Mode menu. Cause trigger during data capture and terminate further data capture. Terminate data capture after Snapshot trigger has occurred.

MODE F3	SNAPSHOT

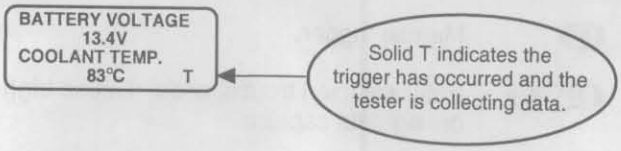
Data Capture Phase

3. Once you've specified the trigger condition, the tester starts saving data in its memory. During this time, you can examine all of the data in the same manner as you do in the F0: Data List mode. You can even create your own pairs during Snapshot. While the tester is waiting for the trigger condition to occur, a flashing "W" is displayed in the lower right-hand corner of the screen.



4. While the tester is waiting for the trigger, it is continuously storing data. The data is organized as a number of 'samples'. The value or state of each parameter as well as all trouble codes are saved for each sample. All data parameters available in F0: Data List mode are stored when saving a snapshot.

5. Once the trigger occurs, the tester continues to save data samples until its memory is full. The tester display indicates that the trigger has occurred by replacing the flashing "W" in the lower right-hand corner of the display with a solid "T". As soon as the memory is full, the Data Capture phase terminates automatically, and the tester goes on to the Search for Trouble Code phase.



6. Pressing EXIT terminates the Data Capture phase early. If the trigger occurred before EXIT was pressed, the tester automatically goes to the Data Display phase. If the trigger had not occurred before EXIT was pressed, the tester returns to the Snapshot Options menu.

Waiting for Trigger | Trigger Occurs | Data Display Phase

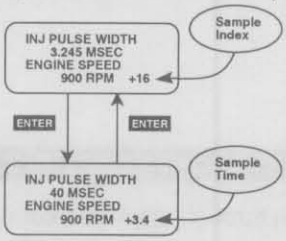
ACTIVE KEYS - DATA CAPTURE PHASE	
YES NO	Scroll through displayed data parameter.
F0	Mark the top display parameter as "fixed" for creating your own pairs.
F1	Mark the bottom display parameter as "fixed" for creating your own pairs.
F9	Manual trigger.
EXIT	Terminate data capture early.
ENTER	Manual trigger.

MODE F3	SNAPSHOT

Data Display Phase

7. The Data Display phase is indicated with the number of the data sample in the lower right-hand corner of the display. Use the ↑ and ↓ keys to sequence through the data samples. Sample "0" corresponds to the trigger sample; sample "-1" is the sample immediately preceding the trigger; sample "+1" is the sample immediately after the trigger; and so on. Press F4 to go to the earliest sample in memory, or F6 to go to the latest sample. Press F5 to display the trigger sample (0).

8. While in the data display phase, pressing ENTER toggles between the sample index and the sample time.



The sample time and sample index displayed is relative to the trigger; samples **before** the trigger have a **negative** time, samples **after** the trigger have a **positive** time.

9. Select the data parameters to be displayed in the same manner as in the Data List mode. All Data List functions are available, such as the ability to create your own parameter pairs.

10. For most vehicles you can press F2 to view the trouble codes present in any sample.

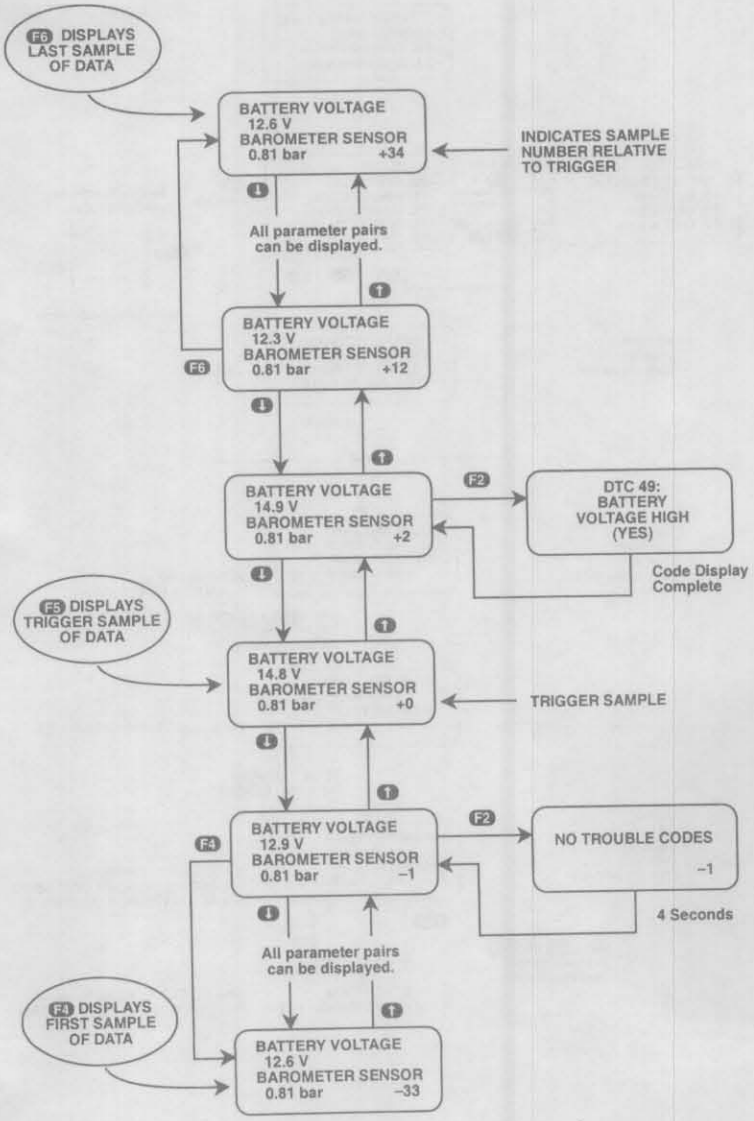
11. The currently displayed sample may be printed if the tester is connected to a printer. To print the data, press F8. While the tester is sending data to the printer, the keyboard is disabled.

    Snapshot data can also be printed in a tabular format using the SCREEN PRINT feature. Refer to the tester operator's manual for setting up the tester to print.

12. When you are finished viewing the sampled data, press EXIT to return to the Snapshot Options menu. Press EXIT again to return to the Select Mode menu.

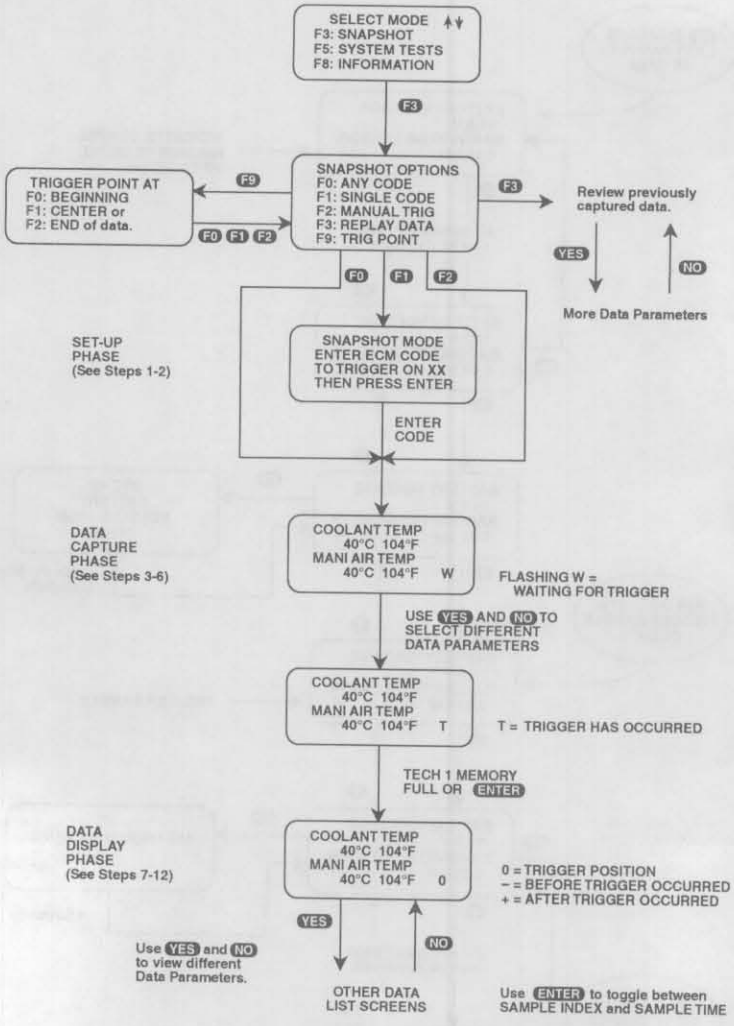
SNAPSHOT | MODE F3

SNAPSHOT DATA DISPLAY



MODE F3 | SNAPSHOT

SNAPSHOT MODE FLOW CHART



SNAPSHOT	MODE F3

ACTIVE KEYS - DATA DISPLAY PHASE	
YES NO	Scroll through displayed data parameters.
F0 F1	Fix the top or bottom display parameter respectively.
F2	Display trouble codes for current sample.
↑	Go to the next data sample.
↓	Go to the previous data sample.
ENTER	Toggle between sample time and index.
F4	Go to the earliest sample in memory.
F5	Go to the trigger sample (sample 0).
F6	Go to the latest sample in memory.
F8	Print Data List.
EXIT	Return to Set-Up Phase.

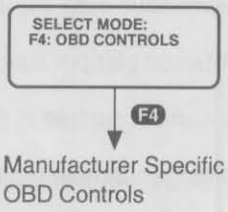
MODE F4	OBD CONTROLS

The OBD Controls mode is used to select a submenu of tests available for the selected vehicle.

The tests vary according to vehicle manufacturer. Instructions for selecting and operating the OBD Controls are included in the Manufacturer Specific Instructions.

OPERATING PROCEDURE

1. Press F4 to display a list of tests available for the selected vehicle.



2. Refer to the Manufacturer Specific Instructions for the vehicle you are testing for operating instructions.

3. Press EXIT to return to the Select Mode menu.

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COMMON TEST MODES
OBD, OBD I SYSTEMS

MODE F5	SYSTEM TESTS
SUBMODE F0	PREP VEHICLE

The System Tests submode ensures that the vehicle system is properly warmed and preconditioned in order to ensure accurate diagnosis. The Prepare Vehicle system test is available for all vehicles.

The Prepare Vehicle System Test submode ensures that the vehicle system is properly warmed and preconditioned for accurate diagnosis. The Prepare Vehicle test also guides you through vehicle no–start diagnostics (the tester prompts you if the vehicle can start, if the engine can crank, or if spark is observed at the spark plug) which can help you in reviving a no–start vehicle, so diagnosis can be performed on a vehicle with possible engine control system problems. Performing the Prepare Vehicle System test should be done every time that you are performing diagnosis on the engine control system.

Before performing the Prep Vehicle submode, select the type of vehicle being tested.

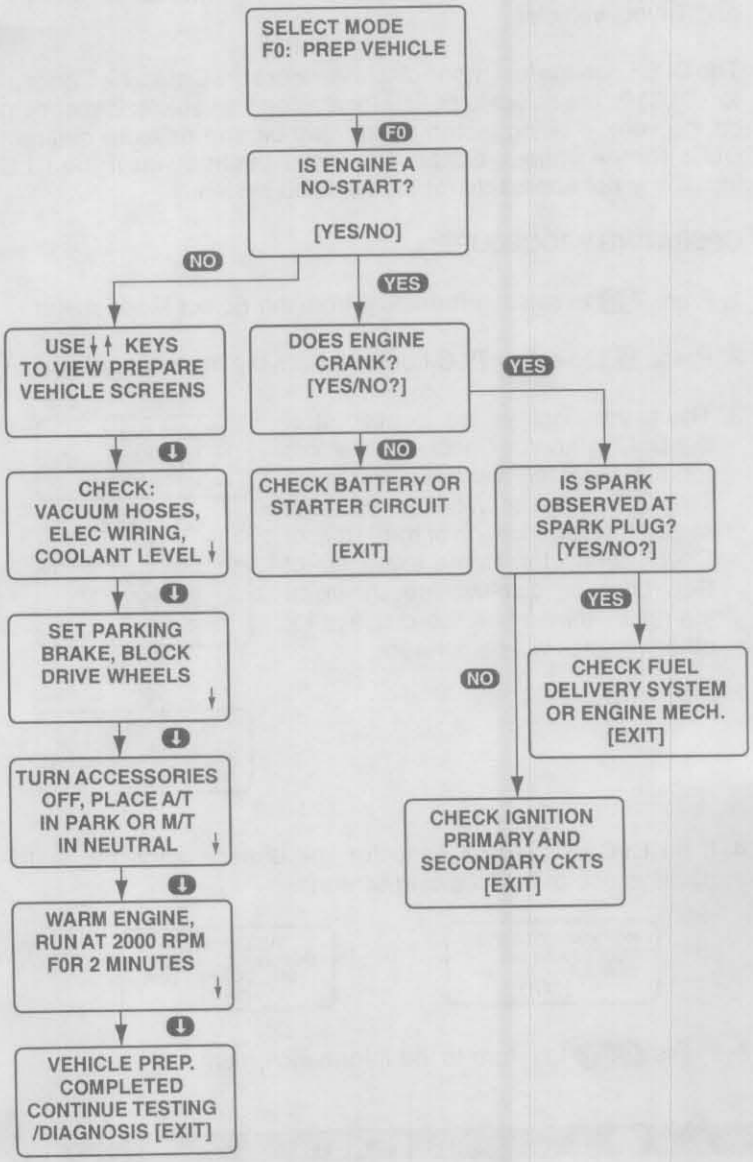
Note: when checking an engine for spark at the ignition coil, coil secondary wire, or spark plug secondary wire, use a suitable spark gap tester to prevent electrical shock and ignition system damage. Run the test in a well–ventilated area.

OPERATING PROCEDURE

1. Press F0 to select Prep Vehicle from the System Tests menu.
2. Start the engine, if possible, then use the up and down keys to read the prepare vehicle screens. When the instructions on the screens have been completed, press EXIT to return to the Select Mode menu.
3. If the engine will not start, follow the Engine No-Start instructions, then press EXIT to return to the Select System Tests menu.

ACTIVE KEYS	
↑ ↓	Used to scroll through the instruction displays.
YES NO	Answer question on screen.
EXIT	Return to Select Mode menu.

SYSTEM TESTS	MODE F5
PREP VEHICLE	SUBMODE F0



COMMON TEST MODES
OBD, OBD I SYSTEMS

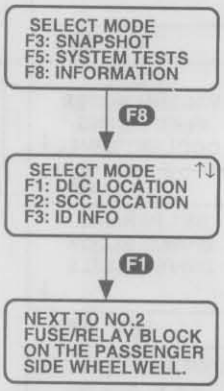
MODE F8	INFORMATION
SUBMODE F1	DLC LOCATION

Submode F1: DLC Location is available for select Chrysler Import and Nissan vehicles, and all Hyundai, Lexus, Mazda, Mitsubishi, and Toyota vehicles.

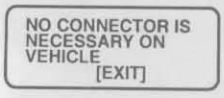
The DLC Location test mode displays where the Data Link Connector (DLC) for the selected ECU is located on the vehicle. Depending on the vehicle being tested, there may be one or more different DLCs for the various ECUs. The tester informs you if the DLC location is not applicable for the selected system.

OPERATING PROCEDURE:

1. Press F8 to select Information from the Select Mode menu.
2. Press F1 to select DLC Location from the Information menu.
3. The tester displays the location(s) of the DLC(s) and/or Check Connectors for the selected vehicle. For some Toyota and Lexus vehicles, you can select the DLC location of the TDCL or Check connector. Some examples of DLC Location displays are shown at the right. Remember, the displays for other vehicles will be different.



4. If no DLC or Check Connector link is necessary, the tester displays one of the following screens.



5. Press EXIT to return to the Information menu.

ACTIVE KEYS	
EXIT	Return to Information menu.

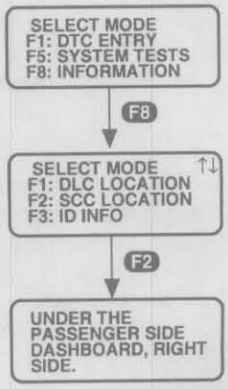
INFORMATION	MODE F8
SCC LOCATION	SUBMODE F2

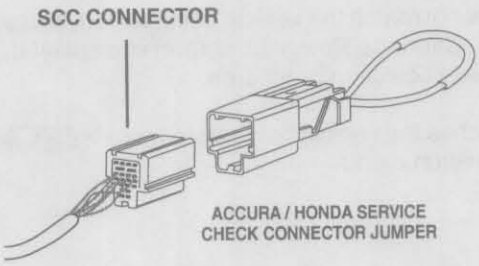
Submode F2: SCC Location is available for Acura and Honda vehicles only.

The SCC Location test mode displays where the Service Check Connector (SCC) for the selected ECU is located on the vehicle. Depending on the vehicle being tested, there may be one or more different SCCs for the various ECUs. The tester informs you if the SCC location is not applicable for the selected system.

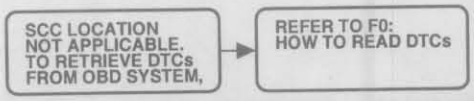
OPERATING PROCEDURE

1. Press F8 to select Information from the Select Mode menu.
2. Press F2 to select SCC Location from the Information menu.
3. The tester displays the SCC Location of the ECU being tested on the selected vehicle. Some examples of SCC Location displays are shown at the right. Remember, the displays for other vehicles will be different.





4. The tester informs you if the SCC location is not required for the selected vehicle.



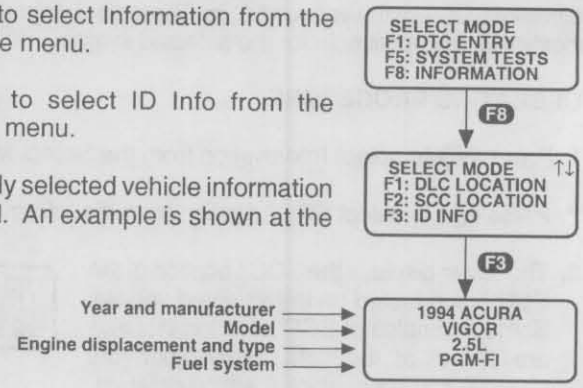
ACTIVE KEYS	
EXIT	Return to Information menu.

MODE F8	INFORMATION
SUBMODE F3	ID INFO

The Vehicle Information submode displays the currently selected year, vehicle manufacturer, model, engine displacement and type, and additional information such as fuel system and grade.

OPERATING PROCEDURE

1. Press F8 to select Information from the Select Mode menu.
2. Press F3 to select ID Info from the Information menu.
3. The currently selected vehicle information is displayed. An example is shown at the right.



4. If the information does not match the vehicle being tested, press EXIT until the Asian Cartridge Power-up screen is displayed, then perform the vehicle selection procedure.
5. If the information matches the vehicle being tested, press EXIT to return to the Information menu.

ACTIVE KEYS	
EXIT	Return to Information menu. Press repeatedly to return to Power-up display.

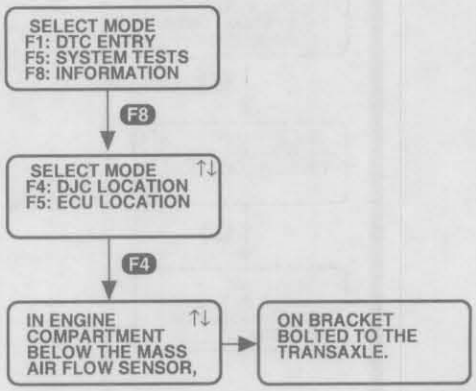
INFORMATION	MODE F8
DJC LOCATION	SUBMODE F4

Submode F4: DJC Location is available for select Chrysler Import and Nissan vehicles, and all Daihatsu, Hyundai, Kia, Mitsubishi, and Subaru vehicles.

The DJC Location test mode displays where the Diagnostic Jumper Connector (DJC) for the selected ECU is located on the vehicle. Depending on the vehicle being tested, there may be one or more different DJCs for the various ECUs. The tester informs you if the DJC location is not applicable for the selected system.

OPERATING PROCEDURE:

1. Press F8 to select Information from the Select Mode menu.
2. Press F4 to select DJC Location from the Information menu.
3. The tester displays the DJC Location of the ECU for the selected vehicle or system. Some examples of DJC Location displays are shown below. Remember, the displays for other vehicles will be different.



4. Press EXIT to return to the Information menu.

ACTIVE KEYS	
EXIT	Return to Information menu.

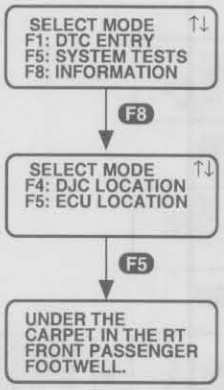
MODE F8	INFORMATION
SUBMODE F5	ECU LOCATION

Submode F5: ECU Location is available for select Nissan vehicles, and all Acura, Honda, Infiniti, Kia and Subaru vehicles.

The ECU Location test mode displays where the selected Electronic Control Unit (ECU) is located on the vehicle. Depending on the vehicle being tested, there may be one or more different ECUs. The tester informs you if the ECU location is not applicable for the selected system.

OPERATING PROCEDURE

1. Press F8 to select Information from the Select Mode menu.
2. Press F5 to select ECU Location from the Information menu.
3. The tester displays the location of the selected ECU on the selected vehicle. Some examples of ECU Location displays are shown below. Remember, the displays for other vehicles will be different.



ACTIVE KEYS	
EXIT	Return to Information menu.

ACURA

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1. VEHICLES AND SYSTEMS

Using the **Asian Imports Cartridge**, the following Acura vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	CODE TYPE	JUMPER TYPE
1986					
INTEGRA	1.6L I4	D16A1	MPFI	ECU LED	NONE
LEGEND	2.5L V6	C25A1	MPFI	ECU LED	NONE
1987					
INTEGRA	1.6L I4	D16A1	MPFI	ECU LED	NONE
LEGEND SEDAN	2.5L V6	C25A1	MPFI	ECU LED	NONE
LEGEND COUPE	2.7L V6	C27A1	MPFI	ECU LED	NONE
1988					
INTEGRA	1.6L I4	D16A1	MPFI	ECU LED	NONE
LEGEND SEDAN	2.7L V6	C27A1	MPFI	ECU LED	NONE
LEGEND COUPE	2.7L V6	C27A1	MPFI	ECU LED	NONE
1989					
INTEGRA	1.6L I4	D16A1	MPFI	ECU LED	NONE
LEGEND SEDAN	2.7L V6	C27A1	MPFI	ECU LED	NONE
LEGEND COUPE	2.7L V6	C27A1	MPFI	ECU LED	NONE
1990					
INTEGRA	1.6L I4	B18A1	MPFI	ECU LED	NONE
LEGEND SEDAN	2.7L V6	C27A1	MPFI	ECU LED	NONE
LEGEND COUPE	2.7L V6	C27A1	MPFI	ECU LED	NONE
1991					
INTEGRA	1.8L I4	B18A1	MPFI	ECU LED	NONE
LEGEND SEDAN	3.2L V6	C32A1	MPFI	MIL/LED	SCC
LEGEND COUPE	3.2L V6	C32A1	MPFI	MIL/LED	SCC
NSX	3.0L V6	C30A1	MPFI	MIL/LED	SCC
1992					
INTEGRA	1.7 I4	B17A1	MPFI	MIL/LED	SCC
	1.8L I4	B18A1	MPFI	MIL/LED	SCC
LEGEND SEDAN	3.2L V6	C32A1	MPFI	MIL/LED	SCC
LEGEND COUPE	3.2L V6	C32A1	MPFI	MIL/LED	SCC
NSX	3.0L V6	C30A1	MPFI	MIL/LED	SCC
VIGOR	2.5L V6	G25A1	MPFI	MIL/LED	SCC

ACURA

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	CODE TYPE	JUMPER TYPE
1993					
INTEGRA	1.7 I4	B17A1	MPFI	MIL/LED	SCC
	1.8L I4	B18A1	MPFI	MIL/LED	SCC
LEGEND SEDAN	3.2L V6	C32A1	MPFI	MIL/LED	SCC
LEGEND COUPE	3.2L V6	C32A1	MPFI	MIL/LED	SCC
NSX	3.0L V6	C30A1	MPFI	MIL/LED	SCC
VIGOR	2.5L V6	G25A1	MPFI	MIL/LED	SCC
1994					
INTEGRA	1.7 I4	B17A1	MPFI	MIL/LED	SCC
	1.8L I4	B18A1	MPFI	MIL/LED	SCC
LEGEND SEDAN	3.2L V6	C32A1	MPFI	MIL/LED	SCC
LEGEND COUPE	3.2L V6	C32A1	MPFI	MIL/LED	SCC
NSX	3.0L V6	C30A1	MPFI	MIL/LED	SCC
VIGOR	2.5L V6	G25A1	MPFI	MIL/LED	SCC

2. ACURA SPECIFIC INFORMATION

Two Ways to Diagnose Acura

Acura powertrain diagnosis can be performed with the Asian Imports cartridge installed in a Tech 1, Tech 1A, or Mastertech tester. Additionally, Acura vehicles can be diagnosed with the aftermarket version of the Acura OEM level program card software using the Mastertech tester only. Operating instructions and test mode information are available for the OEM level software in the Acura/Honda Program Card Operator's Manual.

If you do not have the necessary Program Card and Mastertech tester to perform OEM level diagnostics, you can use the Asian Imports Cartridge for reduced model year coverage. The following Acura section includes the test modes available, how to connect the tester to the vehicle, operating instructions for DTC entry, and the applicable DTCs for each model year.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Acura vehicles. Operating instructions for test modes other than DTC entry are included in the Common Test Modes OBD, OBD I Systems section. There are also Acura specific instructions for operating the test modes. Refer to Section 6 (Test Modes). A description for DTC's specific to Acura is included in Section 7.

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F2: SCC LOCATION*
- SUBMODE F3: ID INFO
- SUBMODE F5: ECU LOCATION*

* NOTE: Submodes F2 or F5 are not available on certain vehicles.

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4. GETTING STARTED

Before operating the Asian Imports Cartridge with an Acura vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the optional battery adapter cable.

3. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

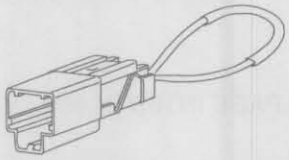
Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

6. When the vehicle has been selected, refer to the Acura Test Modes section for information on how to set the vehicle up for retrieving DTCs.

   On some late model Acura vehicles, the Service Check Connector (SCC) jumper (P/N 02001935) is required to retrieve DTCs. If available, use submode F2: SCC LOCATION from the Information menu to locate the service check connector.



Service Check Connector Jumper

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5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite the manufacturer you wish to select.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

Next, the Engine Select menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

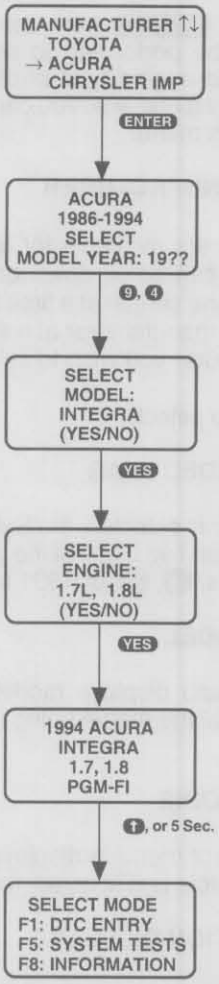
VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems section for operating the test modes with Acura vehicles.

ACURA VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
ENTER	Confirm Power-up display.
EXIT	Return to previous display

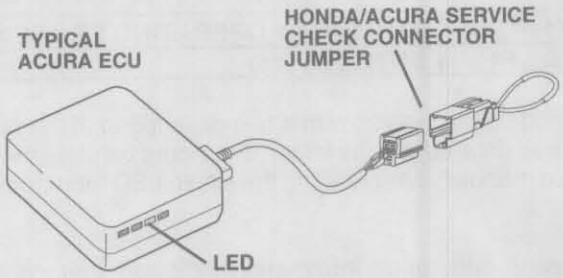
6. TEST MODES

When the Select Mode menu is displayed, test modes available for Acura vehicles may be selected. You may select Mode F1: DTC ENTRY, Mode F5: SYSTEM TESTS or Mode F8: INFORMATION without connecting the tester to the vehicle. General operating instructions for these test modes are included in the Common Test Modes OBD, OBD I Systems section. Operating instructions for Mode F1: DTC ENTRY are included in this section.

Note that early model Acura vehicles did not have a Service Check Connector (SCC). To obtain DTCs from these vehicles, it is not necessary to use the SCC jumper. The Information Mode Menu will display F5: ECU LOCATION if the SCC jumper is not required, or it will display F2: SCC LOCATION if the SCC jumper is required.

Detailed operating instructions for using Mode F1: DTC ENTRY with Acura vehicles are included in the following procedure.

When Mode F1: DTC ENTRY and F0: HOW TO READ are selected, the tester informs you if the Service Check Connector (SCC) jumper must be connected to the vehicle SCC. The location of the SCC is available by selecting Mode F2: SCC LOCATION from the Information menu. If necessary, connect the jumper to the SCC.



To read DTC codes on Acura vehicles you must locate the ECU and observe the flashing LEDs. If you are not sure where the ECU is located, select Submode F5: ECU LOCATION from the Information Mode menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

Follow the detailed instructions on the following pages to read the DTCs. Once the DTCs have been read, the tester can define the code. A complete list of Acura DTCs is also included in Section 7.

MODE F1	DTC ENTRY OPERATING PROCEDURE

When Mode F1: DTC ENTRY is selected, the tester displays five submodes:

F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

MODE F1	DTC ENTRY OPERATING PROCEDURE
SUBMODE F0	HOW TO READ

This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the Factory Service Manual for this information, make sure that you are following the correct steps for the system that you are working on.

MODE F1	DTC ENTRY OPERATING PROCEDURE
SUBMODE F1	ENTER DTC(s)

This submode provides you with a text description of the numeric DTC that was entered into the tester. For Acura vehicles the DTCs are entered manually after reading the single LED mounted on the ECU.

Acura service and repair information indicates that code 0 is supported for OBD systems. Code 0 refers to ECU related failures, and is valid when the engine MIL does not illuminate or will not illuminate for 2 seconds when the ignition is turned on. Refer to the service manual for the current vehicle for further explanation of code 0.

The Enter DTC(s) submode displays two question marks for entering the DTC. The tester screen prompts you to enter the DTCs read off the ECU LED or the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the ECU LED or MIL, then enter the DTC into the tester. Incorrect ECU LED or MIL interpretation can cause the wrong DTC description to be displayed. Refer to the following procedure for manually reading 1–LED DTCs on the ECU.

Manually reading DTCs from late model Acura vehicles that use 1–LED on ECU, or 1-LED on ECU and dashboard MIL:

1. The MIL and the ECU mounted LED can be used to read DTCs from the ECU.
2. Use F2: SCC LOCATION from the Information menu for help in locating the Service Check Connector (SCC) or F5: ECU LOCATION for help in locating the engine electronic control module from the Information menu.
3. If required, connect the Honda/Acura SCC Jumper (P/N 02001935) into the Service Check Connector.
4. Turn the ignition key to run.
5. The MIL and the ECU LED will flash DTCs, if stored in ECU memory.
6. The 10's digit corresponds to a long pulse, and the 1's digit corresponds to a short pulse.
7. Use F1: ENTER DTCs and type manually read DTCs into the tester (or select the DTC from F2: DTC LIST).
8. The selected code(s) will appear on the tester, along with a brief description.
9. If used, remove the Honda/Acura SCC jumper from the Service Check Connector.
10. Use F4: CLEAR DTCs for DTC clear code information.
11. Turn ignition key off when diagnosis is finished.

NOTE: For further information, refer to the Factory Service Manual for the vehicle you are testing.

MODE F1	DTC ENTRY OPERATING PROCEDURE
SUBMODE F2	DTC LIST

This submode provides you with a text description of the numeric DTC that was selected on the tester display screen. As you scroll through the available DTCs you can select the DTC that matches the DTC output by the ECU. After you perform this step, simply select the DTC on the tester screen for later review or printing.

MODE F1	DTC ENTRY OPERATING PROCEDURE
SUBMODE F3	REVIEW DTC

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

MODE F1	DTC ENTRY OPERATING PROCEDURE
SUBMODE F4	CLEAR DTC(s)

This submode has two options for you to choose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory of DTCs that you entered or selected in the tester.

7. ACURA DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Acura vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

YEAR	DTC NO.	DESCRIPTOR
1986	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE FRONT O2S OR O2S CKT FAILURE
	2	REAR 02S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	11	IDLE MIXTURE ADJ SENSOR/CKT FAIL
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL SENSOR

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1987	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE
		FRONT O2S OR O2S CKT FAILURE
	2	FAULTY ECU OR ECU CKT FAILURE
		REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	FAULTY ECU OR ECU CKT FAILURE
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	11	FAULTY ECU OR ECU CKT FAILURE
		IDLE MIXTURE ADJ SENSOR/CKT FAIL
	12	FAULTY ECU OR ECU CKT FAILURE
		EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL SENSOR
	15	FAULTY ECU OR ECU CKT FAILURE
		IGNITION OUTPUT SIG. OR CKT FAIL
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	19	FAULTY ECU OR ECU CKT FAILURE

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1988	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE
	1	FRONT O2S OR O2S CKT FAILURE
	2	FAULTY ECU OR ECU CKT FAILURE
	2	REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	FAULTY ECU OR ECU CKT FAILURE
		CK ANGLE OR CK ANG. CKT FAILURE
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	11	FAULTY ECU OR ECU CKT FAILURE
	12	FAULTY ECU OR ECU CKT FAILURE
		EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL SENSOR
	15	FAULTY ECU OR ECU CKT FAILURE
		IGNITION OUTPUT SIG. OR CKT FAIL
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	19	FAULTY ECU OR ECU CKT FAILURE

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1989	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR 02S CKT FAILURE
		FRONT O2S OR O2S CKT FAILURE
	2	REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	CK ANGLE OR CK ANG. CKT FAILURE
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL SENSOR
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	19	LOCK-UP CONTROL SOL. VALVE FAIL
		FAULTY ECU OR ECU CKT FAILURE
	20	ELECTRIC LOAD SENSOR FAILURE
	21	FAULTY ECU OR ECU CKT FAILURE

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1990	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE
		FRONT O2S OR O2S CKT FAILURE
	2	FAULTY ECU OR ECU CKT FAILURE
		REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	FAULTY ECU OR ECU CKT FAILURE
		CK ANGLE OR CK ANG. CKT FAILURE
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL SENSOR
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	19	FAULTY ECU OR ECU CKT FAILURE
	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	43	FUEL SUPPLY SYSTEM

ACURA

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1991	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE
		LEFT O2S OR O2S CKT FAILURE
		FRONT O2S OR O2S CKT FAILURE
	2	RIGHT O2S OR O2S CKT FAILURE
		REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	CK ANGLE OR CK ANG. CKT FAILURE
		CRANK ANGLE SENSOR NO.1
		CRANK ANGLE SENSOR A
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
		CRANK ANGLE SENSOR - (CYL/A)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC AIR CONTROL SENSOR
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	23	LEFT KS OR KS CIRCUIT FAILURE
	23	FRONT KS OR KS CIRCUIT FAILURE

1991 continues on next page

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1991 (cont.)	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	35	TC STB SIGNAL
	36	TCFC SIGNAL
	41	LEFT O2S HEATER OR CKT FAILURE
		FRONT O2S HEATER OR CKT FAILURE
	42	RIGHT O2S HEATER OR CKT FAILURE
		REAR O2S HEATER OR CKT FAILURE
	43	FUEL SUPPLY SYSTEM
		LEFT FUEL SUPPLY SYSTEM
		FRONT FUEL SUPPLY SYSTEM
	44	RIGHT FUEL SUPPLY SYSTEM
		REAR FUEL SUPPLY SYSTEM
	45	LEFT FUEL SUPPLY METERING
		FRONT FUEL SUPPLY METERING
	46	RIGHT FUEL SUPPLY METERING
		REAR FUEL SUPPLY METERING
	47	FAULTY FUEL PUMP OR CKT FAILURE
	51	REAR SPOOL SOLENOID VALVE
	53	RIGHT KS OR KS CIRCUIT FAILURE
		REAR KS OR KS CIRCUIT FAILURE
	54	CRANK ANGLE SENSOR 2
		CRANK ANGLE SENSOR B
	59	CRANK ANGLE SENSOR - (CYL/2)
		CRANK ANGLE SENSOR - (CYL/B)

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1992	0	FAULTY ECU OR ECU CKT FAILURE
	1	O2 SENSOR OR O2S CKT FAILURE
		LEFT O2S OR O2S CKT FAILURE
		FRONT O2S OR O2S CKT FAILURE
	2	RIGHT O2S OR O2S CKT FAILURE
		REAR O2S OR O2S CKT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	CK ANGLE OR CK ANG. CKT FAILURE
		CRANK ANGLE SENSOR NO.1
		CK ANGLE OR CK ANG. CKT FAILURE
		CRANK ANGLE SENSOR A
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
		CRANK ANGLE SENSOR - (CYL/1)
		CRANK ANGLE SENSOR - (CYL/A)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC AIR CONTROL SENSOR
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	20	ELECTRIC LOAD DETECTOR
	21	SPOOL SOLENOID VALVE (1.7L)
		FRONT SPOOL SOLENOID VALVE
	22	VALVE TIMING OIL PRESS. SW (1.7L)
		FRT VALVE TIMING OIL PRESSURE SW.

1992 continues on next page

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1992 (cont.)	23	KS (1.7L) OR KS CIRCUIT FAILURE
		LEFT KS OR KS CIRCUIT FAILURE
		KS OR KS CIRCUIT FAILURE
		FRONT KS OR KS CIRCUIT FAILURE
	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	35	TC STB SIGNAL
	36	TCFC SIGNAL
	41	O2S HEATER OR CIRCUIT FAILURE
		LEFT O2S HEATER OR CKT FAILURE
		FRONT O2S HEATER OR CKT FAILURE
	42	RIGHT O2S HEATER OR CKT FAILURE
		REAR O2S HEATER OR CKT FAILURE
	43	FUEL SUPPLY SYSTEM
		LEFT FUEL SUPPLY SYSTEM
		FRONT FUEL SUPPLY SYSTEM
	44	RIGHT FUEL SUPPLY SYSTEM
		REAR FUEL SUPPLY SYSTEM
	45	LEFT FUEL SUPPLY METERING
		FUEL SUPPLY METERING
		FRONT FUEL SUPPLY METERING
	46	RIGHT FUEL SUPPLY METERING
		REAR FUEL SUPPLY METERING
	47	FAULTY FUEL PUMP OR CKT FAILURE
	51	REAR SPOOL SOLENOID VALVE
	52	RR VALVE TIMING OIL PRESSURE SW.
	53	RIGHT KS OR KS CIRCUIT FAILURE
		KS OR KS CIRCUIT FAILURE
		REAR KS OR KS CIRCUIT FAILURE
	54	CRANK ANGLE SENSOR 2
		CRANK ANGLE SENSOR B
	59	CRANK ANGLE SENSOR - (CYL/2)
		CRANK ANGLE SENSOR - (CYL/B)

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1993	0	FAULTY ECU OR ECU CKT FAILURE
	1	HEATED O2S OR HO2S CKT FAILURE
		HEATED O2S OR HO2S CKT FAILURE
		FRONT HO2S OR CIRCUIT FAILURE
	2	REAR HO2S OR CIRCUIT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	CK ANGLE OR CK ANG. CKT FAILURE
		CRANK ANGLE SENSOR NO.1
		CRANK ANGLE SENSOR A
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CKT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
		CRANK ANGLE SENSOR NO.1
		CRANK ANGLE SENSOR - (CYL/A)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM (1.8L A/T)
		EGR SYSTEM OR EGR CKT FAILURE
		EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	IDLE AIR CONTROL VALVE
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	20	ELECTRIC LOAD DETECTOR
	21	SPOOL SOLENOID VALVE (1.7L)
		FRONT VTEC SOLENOID VALVE
	22	VALVE TIMING OIL PRESS. SW (1.7L)
		FRONT VTEC PRESSURE SWITCH

1993 continues on next page

ACURA DTCs

YEAR	DTC NO.	DESCRIPTOR
1993 (cont.)	23	KS (1.7L) OR KS CIRCUIT FAILURE LEFT KS OR KS CIRCUIT FAILURE KNOCK SENSOR NO.1 FRONT KS OR KS CIRCUIT FAILURE
	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	35	TC STB SIGNAL
	36	TCFC SIGNAL
	41	HO2S HEATER OR CIRCUIT FAILURE LEFT H02S HEATER OR CKT FAILURE FRNT HO2S HEATER OR CKT FAILURE
	42	RT HO2S HEATER OR CKT FAILURE REAR HO2S HEATER OR CKT FAILURE
	43	FUEL SUPPLY SYSTEM LEFT FUEL SUPPLY SYSTEM FRONT FUEL SUPPLY SYSTEM
	44	RIGHT FUEL SUPPLY SYSTEM REAR FUEL SUPPLY SYSTEM
	45	LEFT FUEL SUPPLY METERING FUEL SUPPLY METERING FRONT FUEL SUPPLY METERING
	46	RIGHT FUEL SUPPLY METERING REAR FUEL SUPPLY METERING
	47	FAULTY FUEL PUMP OR CKT FAILURE
	51	REAR VTEC SOLENOID VALVE
	52	REAR VTEC PRESSURE SWITCH
	53	RIGHT KS OR KS CIRCUIT FAILURE KNOCK SENSOR NO.2 REAR KS OR KS CIRCUIT FAILURE
	54	CRANK ANGLE SENSOR 2 CRANK ANGLE SENSOR B
	59	CRANK ANGLE SENSOR - (CYL/2) CRANK ANGLE SENSOR - (CYL/B)

YEAR	DTC NO.	DESCRIPTOR
1994	0	FAULTY ECM OR ECM CIRCUIT FAILURE
	1	HEATED O2 SENSOR OR CIRCUIT FAILURE (INTEGRA, VIGOR)
	1	LEFT HO2 SENSOR OR CIRCUIT FAILURE (LEGEND)
	1	FRONT HO2 SENSOR OR CIRCUIT FAILURE (NSX)
	2	RIGHT HO2 SENSOR OR CIRCUIT FAILURE (LEGEND)
	2	REAR HO2 SENSOR OR CIRCUIT FAILURE (NSX)
	3	MAP SENSOR OR MAP CIRCUIT FAILURE
	4	CRANK ANGLE OR CIRCUIT FAILURE (INTEGRA, VIGOR)
	4	CRANK ANGLE SENSOR NO. 1 (LEGEND)
	4	CRANK ANGLE SENSOR A (NSX)
	5	MAP SENSOR OR MAP CIRCUIT FAILURE
	6	ECT SENSOR OR ECT CIRCUIT FAILURE
	7	TP SENSOR OR CIRCUIT FAILURE
	8	CRANK ANGLE SENSOR-TDC
	9	CRANK ANGLE SESNRO NO. 1 (INTEGRA, VIGOR)
	9	CRANK ANGLE SENSOR-CYL. 1 (LEGEND)
	9	CRANK ANGLE SENSOR-CYL. A (NSX)
	10	IAT SENSOR OR CIRCUIT FAILURE
	12	EGR SYSTEM OR CIRCUIT FAILURE (LEGEND, NSX)
	12	EGR SYSTEM OR CIRCUIT FAILURE (VIGOR)
	13	BARO SENSOR OR CIRCUIT FAILURE
	14	IDLE AIR CONTROL VALVE
	15	IGNITION OUTPUT SIGNAL OR CIRCIT FAILURE
	16	FUEL INJECTOR FAILURE
	17	VSS OR CIRCUIT FAILURE
	18	IGNITION TIMING CONTROL UNIT
	20	ELECTRIC LOAD DETECTOR
	21	VTEC SOLENOID VALVE (INTEGRA)
	21	FRONT VTEC SOLENOID VALVE (NSX)
	22	VTEC PRESSURE SWITCH (INTEGRA)
	22	FRONT VTEC PRESSURE SWITCH (NSX)

1994 continues on next page

YEAR	DTC NO.	DESCRIPTOR
1994 (cont.)	23	KNOCK SENSOR OR CIRCUIT FAILURE, B18C1 ENGINE (INTEGRA)
	23	LEFT KNOCK SENSOR OR CIRCUIT FAILURE (LEGEND)
	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	35	TC STB SIGNAL (LEGEND GS MODEL)
	35	TC STB SIGNAL TCFC SIGNAL (NSX)
	36	TCFC SIGNAL (LEGEND GS MODEL)
	36	TCFC SIGNAL (NSX)
	41	HO2 SENSOR HEATER OR CIRCUIT FAILURE (INTEGRA, VIGOR)
	41	LEFT HO2 SENSOR HEATER OR CIRCUIT FAILURE (LEGEND)
	41	FRONT HO2 SENSOR HEATER OR CIRCUIT FAILURE (NSX)
	42	FIGHT HO2 SENSOR HEATER OR CIRCUIT FAILURE (LEGEND)
	42	REAR HO2 SENSOR HEATER OR CIRCUIT FAILURE (NSX)
	43	FUEL SUPPLY SYSTEM (INTEGRA, VIGOR)
	43	LEFT FUEL SUPPLY SYSTEM (LEGEND)
	43	FRONT FUEL SUPPLY SYSTEM (NSX)
	44	RIGHT FUEL SUPPLY SYSTEM (LEGEND)
	44	REAR FUEL SUPPLY SYSTEM (NSX)
	45	LEFT FUEL SUPPLY METERING (LEGEND)
	45	FRONT FUEL SUPPLY METERING (NSX)
	45	FUEL SUPPLY METERING (VIGOR)
	46	RIGHT FUEL SUPPLY METERING (LEGEND)
	46	REAR FUEL SUPPLY METERING (NSX)
	47	FAULTY FUEL PUMP OR CIRCUIT FAILURE
	51	REAR VTEC SOLENOIK VALVE
	52	REAR VTEC PRESSURE SWITCH
	53	RIGHT KNOCK SENSOR OR CIRCUIT FAILURE (LEGEND)
	53	REAR KNOCK SENSOR OR CIRCUIT FAILURE (NSX, VIGOR)
	54	CRANK ANGLE SENSOR 2 (LEGEND)
	54	CRANK ANGLE SENSOR B (NSX)
	59	CRANK ANGLE SENSOR- CYL. 2 (LEGEND)
	59	CRANK ANGLE SENSOR-CYL. B (NSX)

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CHRYSLER IMPORTS

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1. VEHICLES AND SYSTEMS

Using the Asian cartridge, the following Chrysler Imports vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1984					
COLT	1.6L I4 SOHC TUR	G32B	ECI EFI	NONE	MANCODES
1985					
COLT	1.6L I4 SOHC TUR	G32B	ECI EFI	NONE	MANCODES
CONQUEST	2.6L I4 SOHC TUR	G54B	ECI EFI	NONE	MANCODES
1986					
COLT	1.6L I4 SOHC TUR	G32B	ECI EFI	NONE	MANCODES
CONQUEST	2.6L I4 SOHC TUR	G54B	ECI EFI	NONE	MANCODES
CONQUEST	2.6L I4 TUR INT	G54B	ECI EFI	NONE	MANCODES
1987					
COLT	1.6L I4 SOHC TUR	G32B	ECI EFI	NONE	MANCODES
COLT VISTA	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES
CONQUEST	2.6L I4 SOHC TUR	G54B	ECI EFI	CHECK	AUTOCODES
CONQUEST	2.6L I4 TUR INT	G54B	ECI EFI	CHECK	AUTOCODES
1988					
COLT	1.5L	4G15	MPI	CHECK	AUTOCODES
COLT	1.6LTURBO	G32B	MPI	CHECK	AUTOCODES
COLT	1.6LTURBO	G32B	ECI	NONE	AUTOCODES
COLT VISTA	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES
CONQUEST	2.6L I4 TUR INT	G54B	ECI EFI	CHECK	AUTOCODES

CHRYSLER IMPORTS

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1989					
COLT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
COLT	1.6L I4 DOHC TUR	4G61	MPI	CHECK	AUTOCODES
COLT 2000	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT 2000	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
COLT 2000	1.6L I4 DOHC TUR	4G61	MPI	CHECK	AUTOCODES
COLT VISTA	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES
COLT WAGON	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT WAGON	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
CONQUEST	2.6L I4 SOHC TUR	G54B	ECI EFI	CHECK	AUTOCODES
RAM RAIDER	3.0L V6 DOHC	6G72	MPI	CHECK	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
SUMMIT	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
VISTA WAGON	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1990					
COLT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
COLT 200	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT 200	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
COLT VISTA	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES
COLT WAGON	1.5L I4 SOHC	G15	MPI	CHECK	AUTOCODES
COLT WAGON	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
LASER	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC TUR	4G63	MPI	CHECK	AUTOCODES
POWER RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
POWER RAM 50	3.0L V6	6G72	MPI	CHECK	AUTOCODES
RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
RAM 50	3.0L V6	6G72	MPI	CHECK	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
SUMMIT	1.6L I4 DOHC	4G61	MPI	CHECK	AUTOCODES
TALON	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	G63	MPI	CHECK	AUTOCODES
VISTA WAGON	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1991					
COLT	1.5L I4 SOHC	4G61	MPI	CHECK	AUTOCODES
COLT 200	1.5L I4 SOHC	4G61	MPI	CHECK	AUTOCODES
COLT VISTA	2.0L I4 SOHC	G63B	MPI	CHECK	AUTOCODES
LASER	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC TUR	4G63	MPI	CHECK	AUTOCODES
POWER RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
POWER RAM 50	3.0L V6	6G72	MPI	CHECK	AUTOCODES
RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC	6G72	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 SOHC	6G72	MPI	CHECK	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G61	MPI	CHECK	AUTOCODES
TALON	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MPI	CHECK	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1992					
COLT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT 200	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
COLT VISTA	1.8L I4 SOHC	4G93	MPI	CHECK	AUTOCODES
COLT VISTA	2.4L I4 SOHC	4G64	MPI	CHECK	AUTOCODES
LASER	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC TUR	4G63	MPI	CHECK	AUTOCODES
POWER RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
POWER RAM 50	3.0L V6	6G72	MPI	CHECK	AUTOCODES
RAM 50	2.4L I4	4G64	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC	6G72	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MPI	CHECK	AUTOCODES
STEALTH	3.0L V6 SOHC	6G72	MPI	CHECK	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G15	MPI	CHECK	AUTOCODES
SUMMIT WAGON	1.8L I4 SOHC	4G93	MPI	CHECK	AUTOCODES
SUMMIT WAGON	2.4L I4 SOHC	4G64	MPI	CHECK	AUTOCODES
TALON	1.8L I4 SOHC	4G37	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC	4G63	MPI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MPI	CHECK	AUTOCODES

CHRYSLER IMPORTS

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1993					
COLT	1.5L I4 SOHC	4G15	MFI	CHECK	AUTOCODES
COLT	1.8L I4 SOHC	4G93	MFI	CHECK	AUTOCODES
COLT VISTA	1.8L I4 SOHC	4G93	MFI	CHECK	AUTOCODES
COLT VISTA	2.4L I4 SOHC	4G64	MFI	CHECK	AUTOCODES
LASER	1.8L I4 SOHC	4G37	MFI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC	4G63	MFI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC TUR	4G63	MFI	CHECK	AUTOCODES
POWER RAM 50	2.4L I4 SOHC	4G64	MFI	CHECK	AUTOCODES
POWER RAM 50	3.0L V6 DOHC	6G72	MFI	CHECK	AUTOCODES
RAM 50	2.4L I4 SOHC	4G64	MFI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC	6G72	MFI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MFI	CHECK	AUTOCODES
STEALTH	3.0L V6 SOHC	6G72	MFI	CHECK	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G15	MFI	CHECK	AUTOCODES
SUMMIT	1.8L I4 SOHC	4G93	MFI	CHECK	AUTOCODES
SUMMIT WAGON	1.8L I4 SOHC	4G93	MFI	CHECK	AUTOCODES
SUMMIT WAGON	2.4L I4 SOHC	4G64	MFI	CHECK	AUTOCODES
TALON	1.8L I4 SOHC	4G37	MFI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC	4G63	MFI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MFI	CHECK	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1994					
COLT	1.5L I4 SOHC	4G15	MFI	NONE	MANCODES
COLT	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
COLT VISTA	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
COLT VISTA	2.4L I4 SOHC	4G64	MFI	JUMPER	MILCODES
LASER	1.8L I4 SOHC	4G37	MFI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC	4G63	MFI	CHECK	AUTOCODES
LASER	2.0L I4 DOHC TUR	4G63	MFI	CHECK	AUTOCODES
STEALTH	3.0L V6 DOHC	6G72	MFI	JUMPER	MILCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MFI	JUMPER	MILCODES
STEALTH	3.0L V6 SOHC	6G72	MFI	JUMPER	MILCODES
SUMMIT	1.5L I4 SOHC	4G15	MFI	NONE	MANCODES
SUMMIT	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
SUMMIT WAGON	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
SUMMIT WAGON	2.4L I4 SOHC	4G64	MFI	JUMPER	MILCODES
TALON	1.8L I4 SOHC	4G37	MFI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC	4G63	MFI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MFI	CHECK	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1995					
AVENGER	2.0L I4 DOHC	420A	MFI	NONE	MILCODES
AVENGER	2.5L V6 SOHC	6G73	MFI	JUMPER	MILCODES
COLT	1.5L I4 SOHC	4G15	MFI	JUMPER	MILCODES
COLT	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
COLT VISTA	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
COLT VISTA	2.4L I4 SOHC	4G64	MFI	JUMPER	MILCODES
SEBRING	2.0L I4 DOHC	420A	MFI	JUMPER	MILCODES
SEBRING	2.5L V6 SOHC	6G73	MFI	NONE	MILCODES
STEALTH	3.0L V6 DOHC	6G72	MFI	JUMPER	MILCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MFI	JUMPER	MILCODES
STEALTH	3.0L V6 SOHC	6G72	MFI	JUMPER	MILCODES
SUMMIT	1.5L I4 SOHC	4G93	MFI	JUMPER	MILCODES
SUMMIT	1.8L I4 SOHC	4G93	MFI	JUMPER	MILCODES
SUMMIT WAGON	1.8L I4 SOHC	4G64	MFI	JUMPER	MILCODES
TALON	1.8L I4 SOHC	4G37	MFI	CHECK	AUTOCODES
TALON	2.0L 14 DOHC	4G63	MFI	CHECK	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MFI	**OBD II ***	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1996					
AVENGER	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
AVENGER	2.5L V6 SOHC	6G73	MFI	**OBD II ***	AUTOCODES
COLT	1.5L I4 SOHC	4G15	MFI	**OBD II ***	AUTOCODES
COLT	1.8L I4 SOHC	4G93	MFI	**OBD II ***	AUTOCODES
COLT WAGON	1.8L I4 SOHC	4G93	MFI	**OBD II ***	AUTOCODES
COLT WAGON	2.4L I4 SOHC	4G64	MFI	**OBD II ***	AUTOCODES
SEBRING	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
SEBRING	2.5L V6 SOHC	6G73	MFI	**OBD II ***	AUTOCODES
STEALTH	3.0L V6 DOHC TUR	6G72	MFI	**OBD II ***	AUTOCODES
STEALTH	3.0L V6 DOHC	6G72	MFI	**OBD II ***	AUTOCODES
STEALTH	3.0L V6 SOHC	6G72	MFI	**OBD II ***	AUTOCODES
SUMMIT	1.5L I4 SOHC	4G93	MFI	**OBD II ***	AUTOCODES
SUMMIT	1.8L I4 SOHC	4G93	MFI	**OBD II ***	AUTOCODES
SUMMIT WAGON	1.8L I4 SOHC	4G64	MFI	**OBD II ***	AUTOCODES
SUMMIT WAGON	2.4L I4 SOHC	4G64	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 SOHC	4G643	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 SOHC TUR	4G643	MFI	**OBD II ***	AUTOCODES

***Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

CHRYSLER IMPORTS

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1997					
AVENGER	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
AVENGER	2.5L V6 SOHC	4G73	MFI	**OBD II ***	AUTOCODES
SEBRING	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
SEBRING	2.5L V6 SOHC	4G73	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G63	MFI	**OBD II ***	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1998					
AVENGER	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
AVENGER	2.5L V6 SOHC	4G73	MFI	**OBD II ***	AUTOCODES
SEBRING	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
SEBRING	2.5L V6 SOHC	4G73	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 DOHC	420A	MFI	**OBD II ***	AUTOCODES
TALON	2.0L I4 DOHC TUR	4G643	MFI	**OBD II ***	AUTOCODES

*** Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

2. CHRYSLER IMPORTS SPECIFIC INFORMATION

The Chrysler Imports vehicles covered by the Asian Imports Cartridge are separated into two different sections within the Asian Imports Operator's Manual. The vehicle's on-board system will determine which section of the Operator's Manual will need to be used. Vehicles that are OBD II certified have information about the operating test modes in the Common Test Modes OBD II Systems section of the Operator's Manual. Vehicles that have OBD or OBD I systems have test mode information in this section of the Operator's Manual. In these sections, you will find operating instructions, how to connect the tester to the vehicle, and test mode information. A complete list of Chrysler Imports Diagnostic Trouble Codes is included at the back of each section.

To determine which section of the Operator's Manual to use for diagnostic information and instructions, look at Adapter Type of the Vehicles and Systems chart. If the vehicle you are testing has an OBD II adapter type, use the Common Test Modes OBD II Systems section of the Operator's Manual. If the vehicle you are testing does not have the OBD II Adapter Type, use this section to diagnose the vehicle under test.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Chrysler Imports vehicles that have OBD or OBD I systems. Operating instructions for test modes other than F1: DTC ENTRY and F2: DTCs are included in the Common Test Modes OBD, OBD I Systems section. There are specific instructions for operating the test modes. Refer to Section 6 (Test Modes).

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F2: DTC
- SUBMODE F1: READ DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F1: DLC LOCATION*
- SUBMODE F3: ID INFO
- SUBMODE F4: DJC LOCATION*

* Note that not all models support DJC, or DLC Location Test modes. The tester will automatically choose which test mode to display, depending on your vehicle selection.

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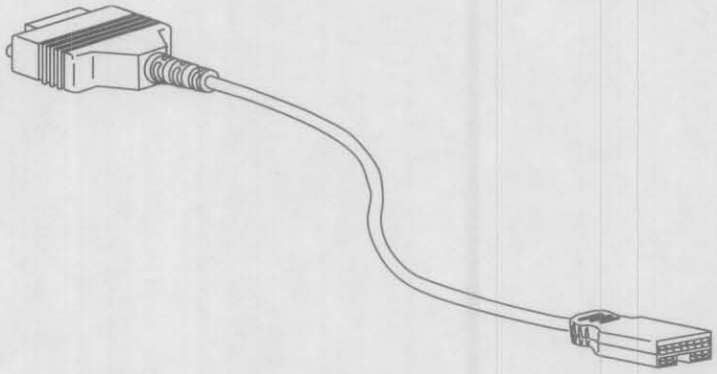
4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Chrysler Imports vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Refer to the chart in Section 1 to see if the vehicle you are testing requires the Check Adapter Cable. If so, connect the Chrysler Imports Check Adapter Cable to the end of the DLC cable, then connect the yellow connector end to the vehicle Check connector.



CHRYSLER IMPORTS CHECK ADAPTER CABLE

3. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery clip adapter (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery clip adapter.

4. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

CHRYSLER IMPORTS

5. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

6. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite CHRY IMPORTS.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE AND ENGINE TYPE

Next, the Engine Select menu is displayed. Press NO until the engine and engine type of the vehicle is displayed, then press YES. For some vehicles, you will also be asked to select the emissions type (CA or FED) and/or the drive type (AWD or FWD).

VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size, and additional information such as the type of fuel system.

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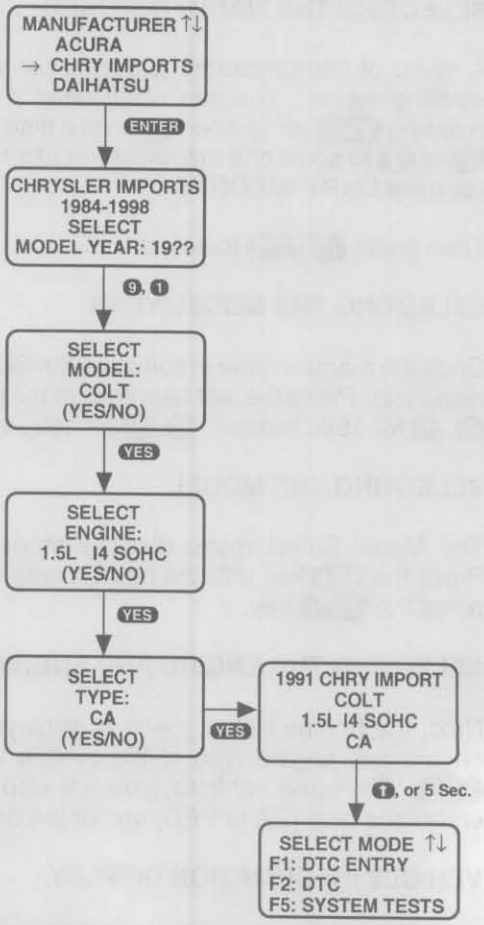
SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems sections for instructions on operating the test modes with Chrysler Imports vehicles.

CHRYSLER IMPORTS VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
EXIT	Return to previous display.

6. TEST MODES

When the Select Mode menu is displayed, test modes available for Chrysler Imports vehicles may be selected.

How to select Modes F1: DTC ENTRY, F2: DTC, F4: DJC LOCATION, and F1: DLC LOCATION are included in the Common Test Modes OBD, OBD I Systems section. You may select Mode F4: DJC LOCATION or F1: DLC LOCATION from the Information menu without connecting the tester to the vehicle.

READING CODES

Detailed operating instructions for using Modes F1: DTC ENTRY and F2: DTC with Chrysler Imports vehicles are included in the following procedure. F1: DTC ENTRY is automatically displayed , and F2: DTC is automatically displayed with Chrysler Imports vehicles that have "CHECK" as the adapter type listed in Section 1.

IMPORTANT:
Follow the Submode F0: Prepare Vehicle instructions to ensure proper vehicle preparation prior to testing. The vehicle must be completely warmed up in order for the tester to communicate properly with the vehicle.

DTC ENTRY	MODE F1

When Mode F1: DTC Entry is selected, the tester displays submodes which, after your selection, can provide information on how to read diagnostic trouble codes (DTCs) from the vehicle, how to clear DTCs from the vehicle (or tester memory buffer), obtain a text description of entered or selected DTCs, and review entered or selected DTCs as a result of manually retrieving codes from the ECU.

DTC ENTRY SUBMODES
F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

MODE F1	DTC ENTRY

Manually Reading DTCs

To manually read Diagnostic Trouble Codes (DTCs) on Chrysler Import vehicles from 1984-95, there are 2 methods that can be used. The most common method requires an analog voltmeter. Using the analog voltmeter set to a 20 volt scale and connected to the Data Link Connector (DLC), the DTC can be interpreted from the analog voltmeter needle flashes. The second method requires the 16 pin Mitsubishi/Chrysler Imports jumper (P/N 02002095) which connects 2 pins of the 16 pin DLC. In a similar fashion, the DTCs are instead flashed out on the instrument panel mounted Malfunction Indicator Lamp (MIL).

For the automobile manufacturers that mention the use of an analog voltmeter to read manual DTCs, the Mastertech Oscilloscope may be used. Set up the single channel oscilloscope and make connections the same way as the analog voltmeter (above). Choose the 20v/division scale and a slow time/division (e.g. 1-2 sec/division) —the DTCs will be shown as a waveform on the display.

Note that manually retrieving DTCs from select 1995 Chrysler Import vehicles requires you to locate and jumper the 16 pin Diagnostic Connector. The vehicles that require the use of a jumper are noted in the column "Adapter Type" in the Chrysler Import coverage table (found at the beginning of this section). Refer to the section on manually reading DTCs from the 1995 Chrysler Import vehicles in this section.

Follow the detailed instructions on the following pages to manually read the DTCs. Once the DTCs have been manually read from the ECU, the tester can define the code. A complete list of Chrysler Imports DTCs is also included in Section 7.

DTC ENTRY	MODE F1
HOW TO READ	SUBMODE F0

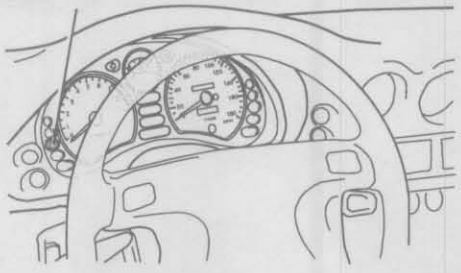
This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the manual for this information, make sure that you are following the correct steps for the system that you are working on.
On Chrysler Imports vehicles, the Enter DTCs submode allows you to enter manually read DTCs. This submode provides you with a text description of the numeric DTC that was entered into the tester.

DTC ENTRY	MODE F1
ENTER DTC(s)	SUBMODE F1

The Enter DTC Submode displays two question marks for DTC Entry. The tester screen prompts you to enter the DTCs read from the analog voltmeter or the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the analog voltmeter or MIL. Incorrect analog voltmeter or MIL interpretation can cause the wrong DTC description to be displayed. Once all DTCs have been manually read and recorded, enter each DTC into the tester as described in the Common Test Modes OBD, OBD I Systems section. Refer to the appropriate procedure for manually reading analog voltmeter or MIL DTCs on the following pages.

Chrysler Imports service and repair information indicates that code 0 is supported for OBD systems. Code 0 refers to ECU related failures, and is valid when the engine MIL does not illuminate or will not illuminate for 2 seconds when the ignition is turned on. Refer to the service manual for the current vehicle for further explanation of code 0.

INSTRUMENT PANEL MALFUNCTION INDICATOR LAMP (MIL)



CHRYSLER IMPORTS

Manually reading DTCs from models that use 12 pin, 12 pin and 16 pin DLC and analog voltmeter:

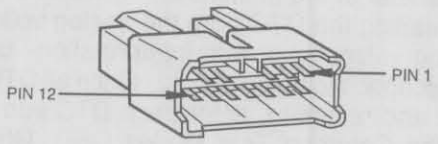
The DLC type is vehicle dependent; refer to the information displayed on the tester F0: HOW TO READ for the DLC type.

1. Locate the 12 pin or 12 pin and 16 pin Diagnostic Connector. Use F4: DJC LOCATION from the Information menu for diagnostic connector location.

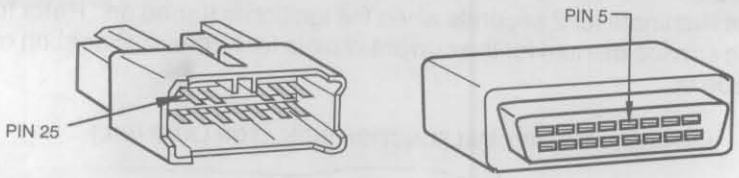
2a. **12 pin DLC only:** Connect analog voltmeter red lead to pin 1 terminal and voltmeter black lead to pin 12 (ground) terminal of diagnosis connector.

2b. **12 pin and 16 pin DLC only:** Connect analog voltmeter red lead to pin 25 of 12 pin DLC and black lead to pin 5 of 16 pin DLC.

VEHICLES WITH 12 PIN DLC

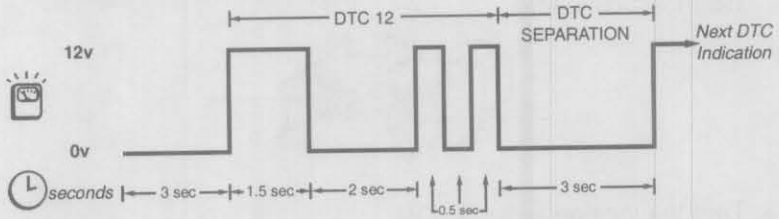


VEHICLES WITH 12 PIN AND 16 PIN DLC



3. Turn ignition switch to ON.
4. DTC indication will begin on voltmeter.

   Voltmeter will fluctuate 0 to 12 volts if DTCs are stored in ECU. If a DTC is stored in ECU, the first number of 12 volt, 1.5 second indications will equal the 10's digit of a 2-digit DTC. After a 2.0 second pause, the second number of 12 volt, 0.5 second indications will equal the 1's digit. DTCs are separated by 0 volt indication for 3.0 seconds.



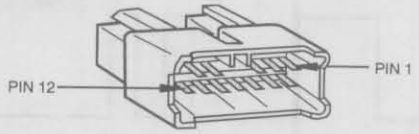
5. If no malfunctions are present, meter will read 12 volts once per second.
6. After recording DTCs turn ignition switch off.
7. Disconnect voltmeter leads.
8. Erase DTCs when all repairs are completed.

Manually reading DTCs from 1987-88 Chrysler Imports Colt Vista with Digital Decimal output:

The DLC type is vehicle dependent; refer to the information displayed on the tester F0: HOW TO READ for the DLC type.

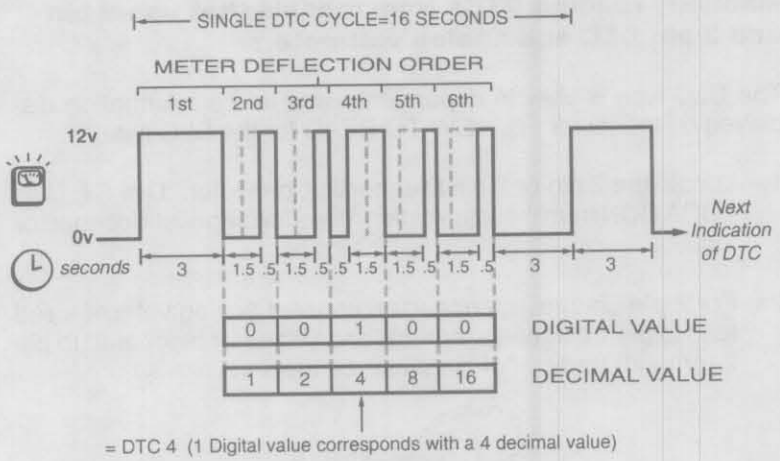
1. Locate the 12 pin Diagnostic Connector. Use F4: DJC LOCATION from the Information menu for diagnostic connector location.

2. Connect an analog voltmeter red lead to pin 1 diagnosis terminal and the voltmeter black lead to pin 12 (12 pin) or terminal of diagnosis connector.



3. Turn the ignition switch to ON.

   Each single DTC output cycle takes 16 seconds. The first 12 volt deflection corresponds to a 3 second start indication, second 12 volt deflection corresponds to a decimal value of 1, third 12 volt deflection corresponds to a decimal value of 2, fourth 12 volt deflection corresponds to a decimal value of 4, fifth 12 volt deflection corresponds to a decimal value of 8, sixth 12 volt deflection corresponds to a decimal value of 16, followed by a 0 volt stop indication for 3 seconds. DTCs are decoded by interpreting the ON time of meter 12 volt deflections 2-6. If the meter displays 12 volts for 1.5 seconds, then that digital value is 1. If the meter displays 12 volts for 0.5 seconds, then that digital value is 0. To get the value of the DTC add the decimal value of digital 1's obtained in the meter deflection order. DTCs are separated by 12 volt, 3 second reading after the stop indication.



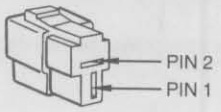
4. The normal DTC condition is indicated by meter indications 2-6, which are 12 volt, 1.5 second deflections separated by 0 volts for 0.5 seconds.
5. After recording DTCs turn ignition switch off.
6. Disconnect voltmeter leads.
7. Erase DTCs when all repairs are completed.

Manually reading DTCs from models that use 2 pin and 3 pin DLC and analog voltmeter:

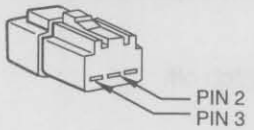
The DLC type is vehicle dependent; refer to the information displayed on the tester F0: HOW TO READ for the DLC type.

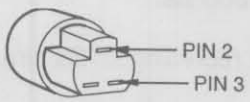
1. Locate the 2 pin or 3 pin Diagnostic Connector. Use F4: DJC LOCATION from the Information menu for diagnostic connector location.

2a. For **2 pin** diagnostic connector, connect analog voltmeter red lead to pin 1 diagnosis terminal and voltmeter black lead to pin 2 (ground) terminal of diagnosis connector.



2b. For **3 pin** diagnostic connector, connect analog voltmeter red lead to pin 2 diagnosis terminal and voltmeter black lead to pin 3 (ground) terminal of diagnosis connector.

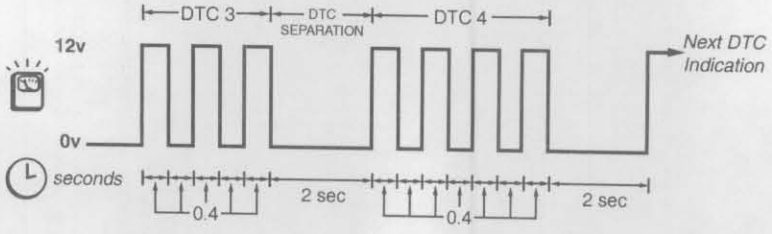




3. Turn ignition switch to ON.

4. DTC indication will begin on voltmeter.

   Voltmeter will fluctuate 0 to 12 volts if DTCs are stored in ECU. If a DTC is stored in ECU, the first number of 12 volt, 0.4 second indications will equal the 1's digit of a 1-digit DTC. DTC 12 volt pulses will be output every 0.4 seconds. DTCs are separated by 0 volts for 2 seconds.



5. If no DTCs are in ECU, voltmeter will read constant 12 volts.
6. After recording DTCs turn ignition switch off.
7. Disconnect voltmeter leads.
8. Erase DTCs when all repairs are completed.

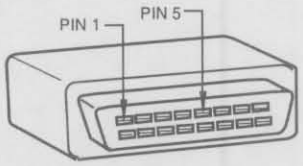
CHRYSLER IMPORTS

Manually Reading DTCs from 1994-95 Chrysler Import Vehicles Using The Instrument Panel Malfunction Indicator Lamp

The DLC type is vehicle dependent; refer to the information displayed on the tester F0: HOW TO READ for the DLC type.

1. Locate the 16 pin Diagnostic Connector. Use F4: DJC LOCATION from the Information menu for diagnostic connector location.

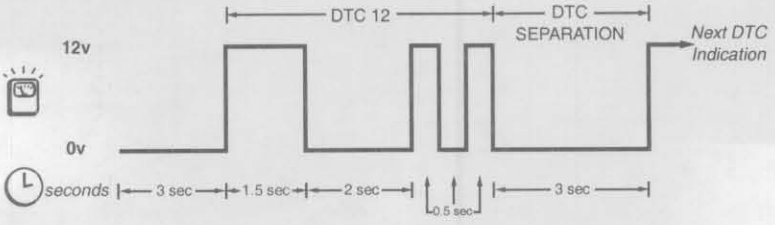
2. Jumper the 16 pin diagnostic connector pins 1 and 5 with the single wire Mitsubishi/Chrysler Imports jumper (P/N 02002106). Use F4: DJC LOCATION from the Information menu for diagnostic connector location.



3. Turn ignition switch ON.

4. Observe the Malfunction Indicator Lamp (MIL) to read DTCs.

   MIL will turn ON/OFF if DTCs are stored in ECU. If a DTC is stored in ECU, the first number of MIL flashes indicates the 10's digit of a 2-digit DTC. After a 2.0 second pause, the second number of MIL flashes indicates the 1's digit. Each DTC is separated by MIL OFF for 3.0 seconds.



5. If no malfunctions are present, MIL will read ON once per second.

6. After recording DTCs turn ignition switch off.

7. Disconnect jumper leads.

8. Erase DTCs when all repairs are completed.

DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions. You can also select the DTCs obtained from the analog voltmeter or MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the analog voltmeter or MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to the Common Test Modes OBD, OBD I Systems section for further information.

DTC ENTRY	MODE F1
REVIEW DTC	SUBMODE F3

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

This submode has two options for you to chose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory from DTCs that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

CHRYSLER IMPORTS

MODE F2	DTC

To read DTCs on all 1988-93 and select 1987, 1994 and 1995 Chrysler Imports vehicles you will need to locate the vehicle DLC and connect the Chrysler Imports Check Adapter to the tester and vehicle.

To locate the DLC, select F1: DLC LOCATION from the Information menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

When Mode F2: DTC is selected, the tester displays four submodes:

DTC SUBMODES
F1: READ DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

IMPORTANT: Follow the Submode F0: Prepare Vehicle instructions to ensure proper vehicle preparation prior to testing. The vehicle must be completely warmed up in order for the tester to communicate properly with the vehicle.

Note: when reading DTCs from Chrysler Imports vehicles make sure the engine is at normal operating temperature and testing is performed in a well–ventilated area.

MODE F2	DTC
SUBMODE F1	READ DTC(s)

This submode provides automated DTC retrieval from the vehicle ECU. Step by step screen instructions guide you to connect the YELLOW Chrysler Imports Check adapter to the vehicle DLC and start and warm the engine to normal operating temperature. This is performed by following the tester instruction screens. If you have trouble, additional F1: READ DTC(s) retrieval information is described below.

This submode is available for all 1988–93 and select 1987, 1994 and 1995 Chrysler Imports vehicles. If you are unsure of the Read DTC test application, check the Code Type column in the Chrysler Imports Vehicle Coverage table (found at the beginning of this section). If the ECU Modes column indicates "Autocodes", then the vehicle supports F1: READ DTC(s).

Reading DTCs from all 1988-93 and select 1987, 1994 and 1995 Chrysler Imports ECUs using the F1: Read DTCs mode in Asian Imports cartridge:

1. Insert Asian cartridge into MASTERTECH or TECH 1/TECH 1A.
2. Connect Chrysler Imports Check adapter (Yellow) to DLC.
3. Connect the Check adapter to the vehicle DLC. Press F1: DLC LOCATION from the Information menu for Data Link Connector location assistance.
4. Power MASTERTECH or TECH 1/TECH 1A with 12v power cable.
5. Select Chrysler Imports vehicle to test.
6. Press F2: DTCs from Chrysler Imports test mode menu.
7. Press F1: READ DTCs submode from DTC test menu. Follow instructions on the tester display.
8. Tester will automatically command the vehicle ECU into the correct mode required to read DTCs, and will display all received DTCs on the tester display.

MODE F2	DTC
SUBMODE F2	DTC LIST

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions. You can also select the DTCs obtained from the analog voltmeter or MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the analog voltmeter or MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to the Common Test Modes OBD, OBD I Systems section for further information.

MODE F2	DTC
SUBMODE F3	REVIEW DTC

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

MODE F2	DTC
SUBMODE F4	CLEAR DTC(s)

This submode has two options for you to chose. Option 1 is an automated function which the tester clears DTC's from the vehicle ECU memory. This is performed by tester keypad presses. Option 2 clears the tester memory from DTC's that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

7. CHRYSLER IMPORTS DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Chrysler Imports vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

OBD, OBD I SYSTEMS

YEAR	DTC NO.	DESCRIPTOR
1984	1	O2 SENSOR OR CKT FAILURE
	2	IGNITION SIGNAL OR CKT FAILURE
	3	AIR FLOW SENSOR OR CKT FAILURE
	4	PRESSURE SNSR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	ISC MOTOR POS. SENSOR OR CKT
	7	ENGINE COOLANT TEMP. SENSOR
	8	SPEED SENSOR OR CKT FAILURE

YEAR	DTC NO.	DESCRIPTOR
1985	1	O2 SENSOR OR CKT FAILURE
	2	IGNITION SIGNAL OR CKT FAILURE
	3	AIR FLOW SENSOR OR CKT FAILURE
	4	PRESSURE SNSR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	ISC MOTOR POS. SENSOR OR CKT
	7	ENGINE COOLANT TEMP. SENSOR
	8	SPEED SENSOR OR CKT FAILURE

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1986	1	O2 SENSOR OR CKT FAILURE
	2	IGNITION SIGNAL OR CKT FAILURE
	3	AIR FLOW SENSOR OR CKT FAILURE
	4	PRESSURE SNSR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	ISC MOTOR POS. SENSOR OR CKT
	7	ENGINE COOLANT TEMP. SENSOR
	8	SPEED SENSOR OR CKT FAILURE

YEAR	DTC NO.	DESCRIPTOR
1987	1	O2 SENSOR OR CKT FAILURE
	2	IGNITION PULSE OR CKT FAILURE CRANK ANGLE SENSOR OR CKT
	3	AIR FLOW SENSOR OR CKT FAILURE
	4	BARO SENSOR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	ISC MOTOR POS. SENSOR OR CKT MPS OR CIRCUIT FAILURE
	7	ENGINE COOLANT TEMP. SENSOR
	8	NO.1 CYL. TDC SENSOR OR CKT

YEAR	DTC NO.	DESCRIPTOR
1988	1	O2 SENSOR OR CKT FAILURE
	2	CRANK ANGLE SENSOR OR CKT IGNITION PULSE OR CKT FAILURE
	3	AIR FLOW SENSOR OR CKT FAILURE
	4	BARO SENSOR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	MPS OR CIRCUIT FAILURE ISC MOTOR POS. SENSOR OR CKT
	7	ENGINE COOLANT TEMP. SENSOR
	8	NO.1 CYL. TDC SENSOR OR CKT

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1989	0	ECU OR CIRCUIT FAILURE
	1	O2 SENSOR OR CKT FAILURE
	2	IGNITION PULSE OR CKT FAILURE
	3	AIR FLOW SENSOR OR CKT FAILURE
	5	TP SENSOR OR TPS CKT FAILURE
	6	ISC MOTOR POS. SENSOR OR CKT
	7	ENGINE COOLANT TEMP. SENSOR
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MPS OR CIRCUIT FAILURE
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	TDC SENSOR OR CIRCUIT FAILURE NO.1 CYL. TDC SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	DETONATION SNSR. OR CKT FAILURE
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1990	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MPS OR CIRCUIT FAILURE
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	TDC SENSOR OR CIRCUIT FAILURE NO.1 CYL. TDC SENSOR OR CKT NO.1 & 4 CYL. TDC SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	DETONATION SNSR. OR CKT FAILURE
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1991	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
		REAR O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SENSOR OR CKT
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	NO. 1&4 CYL. TDC SENSOR OR CKT
		TDC SENSOR OR CIRCUIT FAILURE
		NO.1 CYL TDC SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	DETONATION SNSR. OR CKT FAILURE
	36	IGNITION TIMING ADJUSTMENT
	39	FRONT O2 SENSOR OR CKT FAILURE
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE
		IGN SIGNAL OR CKT (NO. 1&4 CYL)
	52	IGN SIGNAL OR CKT (NO.2&5 CYL)
	53	IGN SIGNAL OR CKT (NO.3&6 CYL)
	61	TORQUE REDUCED SIGNAL (A/T)
	62	INDUCTION CNTRL. VALVE POS. SNSR

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1992	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
		REAR O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SENSOR OR CKT
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	NO. 1&4 CYL. TDC SENSOR OR CKT
		TDC SENSOR OR CIRCUIT FAILURE
		NO.1 CYL TDC SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	DETONATION SNSR. OR CKT FAILURE
	36	IGNITION TIMING ADJUSTMENT
	39	FRONT O2 SENSOR OR CKT.
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE
		IGN SIGNAL OR CKT (NO. 1&4 CYL)
	52	IGN SIGNAL OR CKT (NO.2&5 CYL)
	53	IGN SIGNAL OR CKT (NO.3&6 CYL)
	55	SERVO VALVE POS. SENSOR OR CKT
	61	TORQUE REDUCED SIGNAL (A/T)
	62	INDUCTION CNTRL. VALVE POS. SNSR

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1993	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
		FRONT HEATED O2 SENSOR OR CKT
		HEATED O2 SENSOR OR CKT FAILURE
		REAR HEATED O2 SENSOR OR CKT
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	ISC MOTOR POS. SWITCH OR CKT
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	CAMSHAFT ANGLE SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	KS OR KS CIRCUIT FAILURE
	32	MAP SENSOR OR CKT FAILURE
	36	IGNITION TIMING ADJUSTMENT
	39	FRONT HEATED O2 SENSOR OR CKT
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE
		IGN SIGNAL OR CKT (NO.1&4 CYL)
	52	IGN SIGNAL OR CKT (NO.2&5 CYL)
	53	IGN SIGNAL OR CKT (NO.3&6 CYL)
	55	IAC VALVE POS. SENSOR OR CKT
	59	REAR HEATED O2 SENSOR OR CKT
	61	TORQUE REDUCED SIGNAL (A/T)
	62	INDUCTION CONT. VALVE POS. SNSR

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1994	0	ECU OR CIRCUIT FAILURE
	11	FRONT HEATED O2 SENSOR OR CKT
		O2 SENSOR OR CKT FAILURE
		HEATED O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	ISC MOTOR POS. SNSR OR CKT
	21	ENGINE COOLANT TEMP. SENSOR
	22	CRANK ANGLE SENSOR OR CKT
	23	CAMSHAFT ANGLE SENSOR OR CKT
	24	SPEED SENSOR OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	31	KS OR KS CIRCUIT FAILURE
	32	MAP SENSOR OR CKT FAILURE
	36	IGNITION TIMING ADJUSTMENT
	39	HEATED O2 SENSOR OR CKT FAILURE
		FRONT HEATED O2 SENSOR OR CKT
	41	INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	44	IGNITION COIL OR CKT FAILURE
		IGN SIGNAL OR CKT (NO.1&4 CYL)
	52	IGN SIGNAL OR CKT (NO.2&5 CYL)
	53	IGN SIGNAL OR CKT (NO.3&6 CYL)
	55	IAC VALVE POS. SENSOR OR CKT
	59	REAR HEATED O2 SENSOR OR CKT
	61	TORQUE REDUCED SIGNAL OR CKT
	62	INDUCTION CONT. VALVE POS. SNSR
	69	REAR HEATED O2 SENSOR OR CKT

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1995	11	(FRONT) HO2 SENSOR CIRCUIT MALFUNCTION (I4)
	11	LEFT BANK HO2 SENSOR CIRCUIT MALFUNCTION (V6)
	11	CAM/CRANKSHAFT POSITION SENSOR SIGNAL MALFUNCTION (AVENGER/SEBRING)
	12	VOLUME AIR FLOW CIRCUIT MALFUNCTION
	13	IAT SENSOR CIRCUIT MALFUNCTION
	13	MAP SENSOR CIRCUIT, NO PRESSURE CHANGE (2.0L AVENGER/SEBRING)
	14	TPS CIRCUIT MALFUNCTION
	14	MAP SENSOR CIRCUIT MALFUNCTION (AVENGER/SEBRING)
	15	NO VSS SIGNAL TO PCM
	16	KNOCK SENSOR NO. 1 CIRCUIT MALFUNCTION (2.0L AVENGER/SEBRING)
	17	ENGINE TEMP. TOO LOW, NO CLOSED LOOP FUEL CONTROL
	21	ECT SENSOR CIRCUIT MALFUNCTION
	21	(HEATED) O2 SENSOR SYSTEM MALFUNCTION (AVENGER/SEBRING)
	22	CRANKSHAFT POSITION SENSOR CIRCUIT MALFUNCTION
	22	ECT SENSOR CIRCUIT MALFUNCTION (AVENGER/SEBRING)
	23	CAMSHAFT POSITION SENSOR CIRCUIT MALFUNCTION
	23	IAT SENSOR CIRCUIT MALFUNCTION
	25	BARO PRESSURE SENSOR CIRCUIT MALFUNCTION
	25	IAC CONTROL MOTOR CIRCUIT MALFUNCTION (AVENGER/SEBRING)
	24	VSS/REED SWITCH CIRCUIT MALFUNCTION
	24	TPS CIRCUIT MALFUNCTION (AVENGER/SEBRING)
	27	FUEL INJECTOR CONTROL CIRCUIT MALFUNCTION
	31	EVAP PURGE SOLENOID CIRCUIT MALFUNCTION
	31	EVAP SYSTEM MALFUNCTION (2.0L AVENGER/SEBRING)
	31	KNOCK SENSOR CIRCUIT MALFUNCTION (STEALTH DOHC)
	32	EGR SYSTEM MALFUNCTION (AVENGER/SEBRING)
	32	MAP SENSOR CIRCUIT MALFUNCTION (1.5L COLT/SUMMIT)
	33	A/C CLUTCH RELAY CIRCUIT MALFUNCTION
	35	FAN CONTROL RELAY CIRCUIT MALFUNCTION
	36	IGNITION TIMING ADJUSTMENT SIGNAL CIRCUIT MALFUNCTION
	36	SECONDARY PULSED AIR SYSTEM MALFUNCTION (2.0L AVENGER/SEBRING)
	37	PARK/NEUTRAL POSITION SWITCH A/T (2.0L AVENGER/SEBRING)
	39	HO2 SENSOR CIRCUIT MALFUNCTION (RIGHT BANK, V6)

(Continued on the next page)

CHRYSLER IMPORTS DTCs

YEAR	DTC NO.	DESCRIPTOR
1995 (cont.)	41	GENERATOR FIELD CIRCUIT MALFUNCTION (AVENGER/SEBRING)
	42	ASD/FUEL PUMP RELAY CIRCUIT MALFUNCTION
	43	EGR SYSTEM: VALVE, SOLENOID, VAC. OR TEMP. SENSOR
	43	IGNITION MISFIRE DETECTED (2.0L AVENGER/SEBRING)
	44	IGNITION COIL/TRANSISTOR CYLINDERS 1/4 (STEALTH DOHC)
	44	BATTERY TEMP. SENSOR VOLTAGE OUT OF LIMITS
	46	CHARGING SYSTEM VOLTAGE TOO HIGH
	47	CHARGING SYSTEM VOLTAGE TOO LOW
	51	FUEL SYSTEM LEAN
	52	IGNITION COIL/TRANSISTOR CYLINDERS 2/5
	52	FUEL SYSTEM RICH
	53	IGNITION COIL/TRANSISTOR CYLINDERS 3/6
	53	INTERNAL PCM FAILURE (2.0L AVENGER/SEBRING)
	54	NO CAMSHAFT SIGNAL AT PCM
	55	IAC VALVE POSITION SENSOR CIRCUIT MALFUNCTION
	59	REAR HO2 SENSOR CIRCUIT MALFUNCTION (LEFT BANK, V6)
	61	TORQUE REDUCTION SIGNAL CIRCUIT MALFUNCTION
	62	PCM FAILURE, SRI MILE NOT STORED
	62	INDUCTION CONTROL VALVE SYSTEM MALFUNCTION (STEALTH, DOHC NON-TURBO)
	64	CATALYTIC CONV. EFFICIENCY FAILURE M/T (2.0L AVENGER/SEBRING)
	65	PCM FAILURE, EEPROM WRITE DENIED
	65	POWER STEERING PRESS. SWITCH FAILURE M/T (2.0L AVENGER/SEBRING)
	66	NO CCD MESSAGE FROM TCM (A/T)
	69	HO2 SENSOR CIRCUIT MALFUNCTION (RIGHT BANK, V6)
	71	LOW 5 VOLT SUPPLY TO TPS AND MAP

CHRYSLER IMPORTS DTCs

OBD II SYSTEMS

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0100	Volume Air Flow Circuit Malfunction
	P0105	MAP Sensor Circuit Malfunction
	P0106	BARO Pressure Circuit Out of Range
	P0107	MAP Sensor Voltage Too High
	P0108	MAP Sensor Voltage Too Low
	P0110	IAT Sensor Circuit Malfunction
	P0112	IAT Sensor Voltage Too Low
	P0113	IAT Sensor Voltage Too High
	P0115	ECT Circuit Malfunction
	P0117	ECT Sensor Voltage Too Low
	P0118	ECT Sensor Voltage Too High
	P0120	TPS Circuit Malfunction
	P0121	TPS Voltage does not Agree with MAF
	P0122	TPS Voltage Too Low
	P0123	TPS Voltage Too High
	P0125	Excessive Time to Reach Closed Loop (Avenger/Sebring/non-turbo Talon)
	P0125	Coolant Temp. Too Low, No Closed Loop Operation
	P0130	HO2 Sensor, Bank 1 Sensor 1, Circuit Malfunction
	P0131	Upstream HO2 Sensor, Short to Ground
	P0132	Upstream HO2 Sensor, Short to Battery Voltage
	P0133	Upstream HO2 Sensor, Response Rate
	P0134	Upstream HO2 Sensor, not Switching
	P0135	Upstream HO2 Sensor, Heater Circuit Malfunction
	P0136	HO2 Sensor, Bank 1 Sensor 2, Circuit Malfunction
	P0137	Downstream HO2 Sensor, Short to Ground
	P0138	Downstream HO2 Sensor, Short to Battery Voltage
	P0139	Downstream HO2 Sensor, not Switching
	P0140	Downstream HO2 Sensor, not Switching
	P0141	Downstream HO2 Sensor, Heater Circuit Malfunction
	P0151	Upstream HO2 Sensor, Front Bank, Short to Ground

CHRYSLER IMPORTS DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0152	Upstream HO2 Sensor, Front Bank, Short to Battery Voltage
	P0153	Upstream HO2 Sensor, Front Bank, Slow Response
	P0154	Upstream HO2 Sensor, Front Bank, no Switching
	P1055	HO2 Sensor, Bank 2 Sensor 1, Heater Circuit Malfunction
	P0156	O2 Sensor, Bank 2 sensor 2, Circuit Malfunction
	P0157	Downstream HO2 Sensor, Front Bank, Short to Ground
	P0158	Downstream HO2 Sensor, Front Bank, Short to Battery Voltage
	P0160	Downstream HO2 Sensor, Front Bank, not Switching
	P0161	HO2 Sensor, Bank 2 Sensor 2, Heater Circuit Malfunction
	P0170	Fuel Trim, Bank 1, System Malfunction
	P0171	Fuel System, Lean Condition
	P0172	Fuel System, Rich Condition
	P0173	Fuel Trim, Bank 2, System Malfunction
	P0174	Fuel System, Front Bank, Lean Condition
	P0175	Fuel System, Front Bank, Rich Condition
	P0201	Fuel Injector No. 1, Circuit Malfunction
	P0202	Fuel Injector No. 2, Circuit Malfunction
	P0203	Fuel Injector No. 3, Circuit Malfunction
	P0204	Fuel Injector No. 4, Circuit Malfunction
	P0205	Fuel Injector No. 5, Circuit Malfunction
	P0206	Fuel Injector No. 6, Circuit Malfunction
	P0220	Fuel Pump Relay Control Circuit Malfunction
	P0300	Random Misfire Detected
	P0301	Cylinder No. 1, Misfire Detected
	P0302	Cylinder No. 2, Misfire Detected
	P0303	Cylinder No. 3, Misfire Detected
	P0304	Cylinder No. 4, Misfire Detected
	P0305	Cylinder No. 5, Misfire Detected
	P0306	Cylinder No. 6, Misfire Detected
	P0325	Knock Sensor 1, Circuit Malfunction
	P0335	Crankshaft Position Sensor, Circuit Malfunction
	P0340	Camshaft Position Sensor, Circuit Malfunction
	P0351	Ignition Coil No. 1, Primary Circuit Malfunction
	P0352	Ignition Coil No. 2, Primary Circuit Malfunction
	P0400	EGR Flow System Malfunction
	P0401	EGR System Malfunction
	P0403	EGR Solenoid Circuit Malfunction
	P0420	Catalyst System, Bank 1, Below Efficiency Threshold

CHRYSLER IMPORTS DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0421	Warm Up Catalyst, Bank 1, Below Efficiency Threshold
	P0422	Catalytic Converter Efficiency Failure
	P0431	Warm Up Catalyst, Bank 2, Below Efficiency Threshold
	P0432	Catalytic Converter, Front Bank, Efficiency Failure
	P0440	EVAP Control System Malfunction
	P0441	EVAP Purge Flow Monitor System Malfunction
	P0442	EVAP Control System, Leak Detected
	P0443	EVAP Purge System Control Valve, Circuit Malfunction
	P0446	EVAP Vent Control System Malfunction
	P0450	EVAP Control System Pressure Sensor Malfunction
	P0455	EVAP Control System, Large Leak Detected
	P0500	VSS Circuit Malfunction
	P0505	IAC System Malfunction
	P0510	Closed TP Switch, Circuit Malfunction
	P0551	Power Steering Pressure Sensor Circuit, Range/Performance
	P0600	PCM Malfunction, SPI Communication
	P0601	PCM Internal Malfunction
	P0605	Internal PCM Failure
	P0700	EATX Controller Detects DTC
	P0705	Transmission Range Sensor (PRNDL Input) Circuit Malfunction
	P0710	Transmission Temp. Sensor Circuit Malfunction
	P0715	Speed Error: Input Speed Sensor Circuit
	P0720	Speed Error: Output Speed Sensor Circuit
	P0725	A/T Engine Speed does Not match PCM Engine Speed
	P0731	1st Gear Incorrect Ratio
	P0732	2nd Gear Incorrect Ratio
	P0733	3rd Gear Incorrect Ratio
	P0734	4th Gear Incorrect Ratio
	P0736	Reverse Gear Incorrect Ratio
	P0740	TCC Lockup Control Out of Range
	P0750	LR Solenoid Circuit Error
	P0755	2-4 Solenoid Circuit Error
	P0760	OD Solenoid Circuit Error
	P0765	OD Solenoid Circuit Error
	P1100	Induction Control Motor Position Sensor Circuit Malfunction
	P1101	Traction Control Vacuum Solenoid Malfunction
	P1102	Traction control Ventilation solenoid Malfunction

CHRYSLER IMPORTS DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P1103	Turbo Waste Gate Actuator Malfunction
	P1104	Turbo Waste Gate Solenoid Malfunction
	P1105	Fuel Pressure Solenoid Circuit Malfunction
	P1294	IAC System, Target Idle not Reached
	P1295	TPS Circuit, no 5 Volt Supply
	P1296	MAP Circuit, no 5 Volt Supply
	P1297	No Change in MAP from Start to Run
	P1300	Ignition Timing Adjustment Circuit Malfunction
	P1390	Timing Belt Skipped One or More Teeth
	P1391	Intermittent Loss of Cam/Crankshaft Position Sensor
	P1400	MDP Sensor Circuit Malfunction
	P1443	EVAP Pure System Control Valve 2, Circuit Malfunction
	P1486	EVAP Leak Monitor Detects Pinched Hose
	P1487	High Speed Radiator Fan Control Relay, Circuit Malfunction
	P1489	High Speed Condenser Fan Control Relay, Circuit Malfunction
	P1490	Low Speed Fan Control Relay Circuit Malfunction
	P1492	Battery Temp. Sensor, Voltage Too High
	P1493	Battery Temp. Sensor, Voltage Too Low
	P1494	EVAP Vent Solenoid System Malfunction
	P1495	EVAP Vent Solenoid Circuit Malfunction
	P1496	PCM 5 Volt Supply to MAP and TPS Too Low
	P1498	High Speed Radiator Fan Ground Control Relay, Circuit Malfunction
	P1500	Generator FR Terminal Circuit Malfunction
	P1600	Serial Communication Link Malfunction
	P1696	PCM Failure, EEPROM Write Denied
	P1697	PCM Failure, SRI Mile not Stored
	P1698	No CCD Messages from EATX-ECM (A/T)
	P1715	PG Assembly Malfunction
	P1738	Transmission Overheat, High Temp. Operation Activated
	P1739	TCM Power-up While Vehicle Being Driven
	P1750	Shift Solenoid Assembly Malfunction
	P1765	TCM Senses Volts on Pressure Switch When Unexpected
	P1767	EATX Relay Always ON, Contacts Closed
	P1768	EATX Relay Always Off, Contacts Open
	P1770	Inadequate Element Volume: L/R
	P1771	Inadequate Element Volume: 2-4
	P1772	Inadequate Element Volume: OD
	P1775	Solenoid Switch Valve Latched in LU Position

CHRYSLER IMPORTS DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P1776	Solenoid Switch Valve Latched in LR Position
	P1781	OD Pressure Switch Circuit
	P1782	2-4 Pressure Switch Circuit
	P1784	L/R Pressure Switch Circuit
	P1787	OD Hydraulic Pressure Switch Circuit
	P1788	2-4 Hydraulic Pressure Switch Circuit
	P1789	OD/2-4 Hydraulic Pressure Switch Circuit
	P1790	Error After Shift- Check Speed Code Error
	P1791	ECT Level Input to TCM, Trans. Slips/No Pressure, Check Fluid Level
	P1792	Battery Power Disconnected Since Last Power Down
	P1793	TRD Link Communication Error
	P1794	Speed Sensor Ground
	P1795	TCM Internal Control Module Malfunction
	P1798	Worn Transmission Fluid, Shudder Detected with A/C Clutch
	P1799	Calculated Transmission Fluid Temp. in Use
	P1899	Park/Neutral Switch Malfunction (A/T)

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DAIHATSU

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1. VEHICLES AND SYSTEMS

Using the Asian cartridge, the following Daihatsu vehicles can be diagnosed.

YEAR	MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ADAPTER TYPE	CODE TYPE
1988	CHARADE	1.0L I3	G100	MPI	NONE	MILCODES
1989	CHARADE	1.0L I3	G100	MPI	NONE	MILCODES
	CHARADE	1.3L I4	G102	MPI	NONE	MILCODES
1990	CHARADE	1.0L I3	G100	MPI	NONE	MILCODES
	CHARADE	1.3L I4	G102	MPI	NONE	MILCODES
	ROCKY	1.6L I4	F300	MPI	NONE	MILCODES
1991	CHARADE	1.0L I3	G100	MPI	NONE	MILCODES
	CHARADE	1.3L I4	G102	MPI	NONE	MILCODES
	ROCKY	1.6L I4	F300	MPI	NONE	MILCODES
1992	CHARADE	1.0L I3	G100	MPI	NONE	MILCODES
	CHARADE	1.3L I4	G102	MPI	NONE	MILCODES
	ROCKY	1.6L I4	F300	MPI	NONE	MILCODES

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2. DAIHATSU SPECIFIC INFORMATION

The Daihatsu Specific Information section defines the Daihatsu vehicles covered by the Asian Imports Cartridge, the test modes available, and operating instructions for DTC Entry. A complete list of Daihatsu Diagnostic Trouble Codes is also included in Section 7.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Daihatsu vehicles. Operating instructions for test modes other than Mode F1: DTC ENTRY are included in the Common Test Modes OBD, OBD I Systems section.

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F3: ID INFO
- SUBMODE F4: DJC LOCATION

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4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Daihatsu vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery adapter cable.

3. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

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5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite Daihatsu.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

Next, the Engine Select menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

VEHICLE INFORMATION DISPLAY

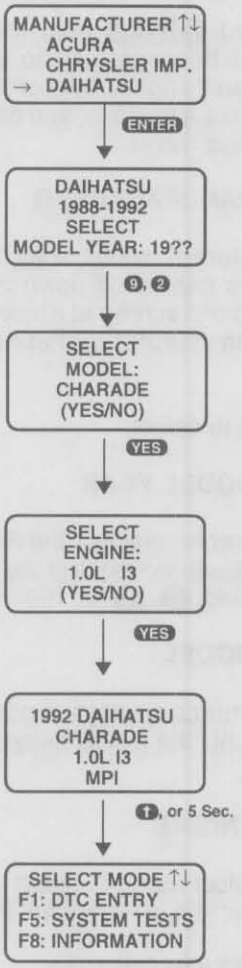
After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems sections for instructions on operating the test modes with Daihatsu vehicles.

DAIHATSU

DAIHATSU VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
ENTER	Confirm Power-up display.
EXIT	Return to previous display.
↑ ↓	Scrolls through instruction displays.

6. TEST MODES

When the Select Mode menu is displayed, test modes available for Daihatsu vehicles may be selected. You may select Mode F1: DTC ENTRY, Mode F5: SYSTEM TESTS, or Mode F8: INFORMATION without connecting the tester to the vehicle. Operating instructions for Mode F1: DTC ENTRY are included in Section 6. Operating instructions for the other test modes are included in the Common Test Modes OBD, OBD I Systems section.

Detailed operating instructions for using Mode F1: DTC ENTRY with Daihatsu vehicles are included in the following procedure.

READING CODES

When Mode F1: DTC ENTRY is selected, the tester displays submodes which, after your selection, provide information on how to read diagnostic trouble codes (DTCs) from the vehicle, how to clear DTCs from the vehicle (or tester memory), obtain a text description of entered or selected DTCs, and review entered or selected DTCs as a result of manually retrieving codes from the ECU.

To read DTC codes on Daihatsu vehicles you must connect the 6-pin Daihatsu jumper (P/N 02002073) to the Diagnostic Jumper Connector (DJC) and observe the flashing MIL. If you do not know where the DJC is located, select Mode F4: DJC LOCATION from the Information menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

Follow the detailed instructions on the following pages to manually read the DTCs. Once the DTCs have been manually read from the ECU, you can input the DTC into the tester so the tester can define the code. A complete list of Daihatsu DTCs is also included in Section 7.

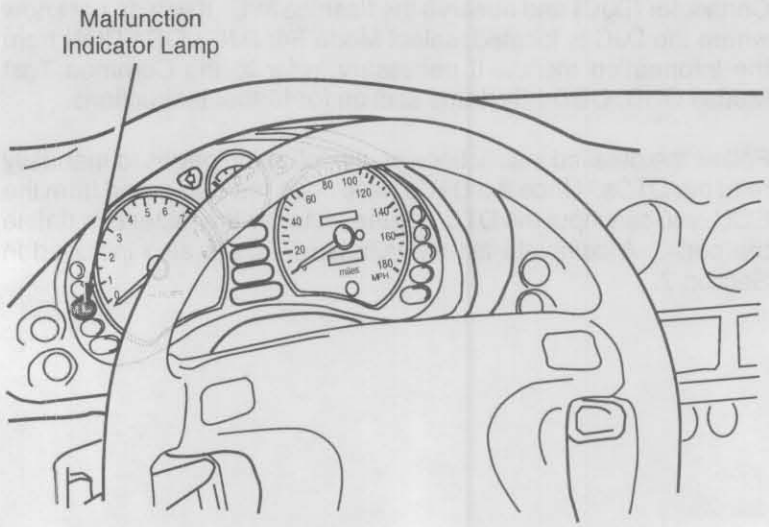
MODE F1	DTC ENTRY

When Mode F1: DTC ENTRY is selected, the tester displays five submodes:

F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

Manually Reading DTCs

To manually read Diagnostic Trouble Codes (DTCs) on Daihatsu vehicles from 1988-92, locate and jumper the Diagnostic Connector, then read the Malfunction Indicator Lamp (MIL). This method requires the 6-pin Daihatsu jumper (P/N 02002073) which connects 2 pins of the 6 pin DJC. The DTCs are flashed out on the dashboard mounted MIL. Refer to the section on manually reading DTCs from the 1988-92 Daihatsu vehicles in this section.



DTC ENTRY	MODE F1
HOW TO READ	SUBMODE F0

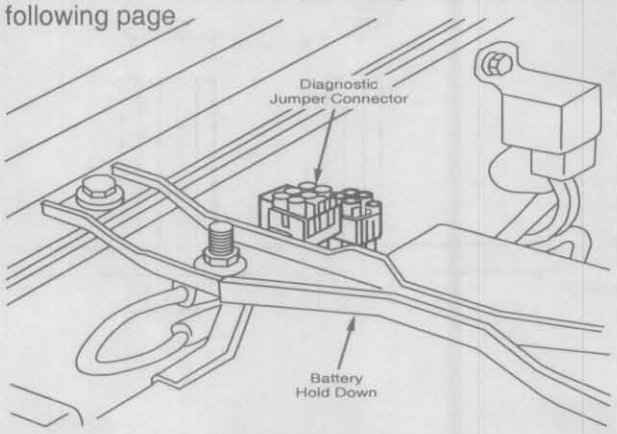
This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the factory service manual for this information, make sure that you are following the correct steps for the system you are working on.

DTC ENTRY	MODE F1
ENTER DTC(s)	SUBMODE F1

This submode provides you with a description of how to obtain DTC information from the ECU and how to enter this information into the tester. On Daihatsu vehicles, there is one method to enter manually read DTC's which is the Enter DTC submode.

The Enter DTC submode has two question marks on the tester display for entering the DTC. The tester screen prompts you to enter the DTC(s) read off the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the MIL. Incorrect MIL interpretation can cause the wrong DTC description to be displayed. Once all DTCs have been manually read and recorded, enter each DTC into the tester as described in the Common Test Modes OBD, OBD I Systems section.

Specific instructions for manually reading Daihatsu MIL DTCs are on the following page



Example: 1991 Rocky

Manually Reading DTCs from Daihatsu Vehicles Using the Dashboard Malfunction Indicator Lamp:

1. Before testing, check the following initial conditions: Battery voltage of 11 volts or more, throttle valve fully closed, all accessory switches turned OFF.

2. Locate the 6 pin Diagnostic Jumper Connector (DJC).

3. Jump TEST (T) and GROUND terminals by connecting the 6 pin Daihatsu Jumper (P/N 02002073) to the vehicle's 6 pin diagnosis jumper connector.

4. Turn ignition switch to ON but do not start the engine.

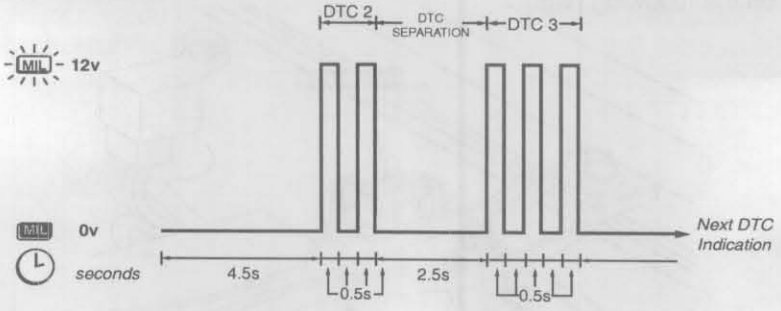
5. Dashboard MIL will begin flashing DTCs.

   If DTCs are stored in the ECU, the MIL will begin indicating the DTCs 4.5 seconds after the ignition is switched ON. MIL flash is 0.5 seconds ON, and each flash is separated by 0.5 seconds. Each DTC is separated by a 2.5 second interval. DTC series is separated by a 4.5 second interval. If no DTCs are stored in ECU, the normal condition (DTC 1) will be flashed on the MIL.

6. The normal DTC condition is one MIL flash in 5 seconds.

7. Disconnect 6 pin Daihatsu Jumper when finished.

8. Erase DTCs when all repairs are completed.



DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions You can also select the DTCs obtained from the MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to the Common Test Modes OBD, OBD I Systems section for further information.

DTC ENTRY	MODE F1
REVIEW DTC	SUBMODE F3

This submode provides a way of reviewing DTCs that you selected or entered in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

This submode has two options for you to choose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory of DTCs that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

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7. DAIHATSU DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Daihatsu vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

YEAR	DTC NO.	DESCRIPTOR
1988	1	NO DTCs-NORMAL OPERATION
	2	PRESSURE SENSOR OR CKT FAILURE
	3	IGNITION SIGNAL OR CKT FAILURE
	4	ECT SENSOR OR CIRCUIT FAILURE
	5	O2 SENSOR OR CIRCUIT FAILURE
	6	CRANK ANGLE SENSOR OR CKT
	7	TP SENSOR OR CIRCUIT FAILURE
	8	IAT SENSOR OR CIRCUIT FAILURE
	9	SPEED SENSOR OR CIRCUIT FAILURE
	10	STARTER SIGNAL OR CKT FAILURE
	11	SWITCH SIGNAL OR CKT FAILURE
	12	EGR CIRCUIT FAILURE

DAIHATSU DTCs

YEAR	DTC NO.	DESCRIPTOR
1989	1	NO DTCs-NORMAL OPERATION
	2	PRESSURE SENSOR OR CKT FAILURE
	3	IGNITION SIGNAL OR CKT FAILURE
	4	ECT SENSOR OR CIRCUIT FAILURE
	5	O2 SENSOR AND/OR FUEL SYSTEM CKT O2 SENSOR OR CIRCUIT FAILURE
	6	CRANK ANGLE SENSOR OR CKT
	7	TP SENSOR OR CIRCUIT FAILURE
	8	IAT SENSOR OR CKT FAILURE
	9	SPEED SENSOR OR CKT FAILURE
	10	STARTER SIGNAL OR CKT FAILURE
	11	SWITCH SIGNAL OR CKT FAILURE
	12	EGR CIRCUIT FAILURE
	15	AIR/FUEL RATIO RICH FAILURE
	16	AIR/FUEL RATIO LEAN FAILURE

YEAR	DTC NO.	DESCRIPTOR
1990	1	NO DTCs-NORMAL OPERATION
	2	PRESSURE SENSOR OR CKT FAILURE
	3	IGNITION SIGNAL OR CKT FAILURE
	4	ECT SENSOR OR CIRCUIT FAILURE
	5	O2 SENSOR AND/OR FUEL SYSTEM CKT O2 SENSOR OR CIRCUIT FAILURE
	6	CRANK ANGLE SENSOR OR CKT
	7	TP SENSOR OR TPS CKT FAILURE
	8	IAT SENSOR OR CKT FAILURE
	9	SPEED SENSOR OR CKT FAILURE
	10	STARTER SIGNAL OR CKT FAILURE
	11	SWITCH SIGNAL OR CKT FAILURE
	12	EGR CIRCUIT FAILURE
	15	AIR/FUEL RATIO RICH FAILURE
	16	AIR/FUEL RATIO LEAN FAILURE

DAIHATSU DTCs

YEAR	DTC NO.	DESCRIPTOR
1991	1	NO DTCs-NORMAL OPERATION
	2	PRESSURE SENSOR OR CKT FAILURE
	3	IGNITION SIGNAL OR CKT FAILURE
	4	ECT SENSOR OR CIRCUIT FAILURE
	5	O2 SENSOR AND/OR FUEL SYSTEM CKT O2 SENSOR OR CIRCUIT FAILURE
	6	CRANK ANGLE SENSOR OR CKT
	7	TP SENSOR OR CIRCUIT FAILURE
	8	IAT SENSOR OR CKT FAILURE
	9	SPEED SENSOR OR CKT FAILURE
	10	STARTER SIGNAL OR CKT FAILURE
	11	SWITCH SIGNAL OR CKT FAILURE
	12	EGR CIRCUIT FAILURE
	15	AIR/FUEL RATIO RICH FAILURE
	16	AIR/FUEL RATIO LEAN FAILURE

YEAR	DTC NO.	DESCRIPTOR
1992	1	NO DTCs-NORMAL OPERATION
	2	PRESSURE SENSOR OR CKT FAILURE
	3	IGNITION SIGNAL OR CKT FAILURE
	4	ECT SENSOR OR CIRCUIT FAILURE
	5	O2 SENSOR AND/OR FUEL SYSTEM CKT O2 SENSOR OR CIRCUIT FAILURE
	6	CRANK ANGLE SENSOR OR CKT
	7	TP SENSOR OR CIRCUIT FAILURE
	8	IAT SENSOR OR CKT FAILURE
	9	SPEED SENSOR OR CKT FAILURE
	10	STARTER SIGNAL OR CKT FAILURE
	11	SWITCH SIGNAL OR CKT FAILURE
	12	EGR CIRCUIT FAILURE
	15	AIR/FUEL RATIO RICH FAILURE
	16	AIR/FUEL RATIO LEAN FAILURE

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HONDA

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1. VEHICLES AND SYSTEMS

Using the **Asian Imports Cartridge**, the following Honda vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	CODE TYPE	JUMPER TYPE
1985					
ACCORD SEI	1.8L I4	ES3	MPFI	ECU LED	NONE
CIVIC CRX SI	1.5L I4	EW3	MPFI	ECU LED	NONE
1986					
ACCORD	2.0L I4	BS	2V CARB	ECU LED	NONE
ACCORD LXI	2.0L I4	BT	MPFI	ECU LED	NONE
CIVIC CRX SI	1.5L I4	EW3	MPFI	ECU LED	NONE
CIVIC SI	1.3L I4	EV1	3V CARB	ECU LED	NONE
PRELUDE	2.0L I4	BT	MPFI	ECU LED	NONE
1987					
ACCORD	2.0L I4	A20A3	MPFI	ECU LED	NONE
CIVIC	1.5L I4	D15A3	MPFI	ECU LED	NONE
CIVIC CRX SI	1.5L I4	D15A3	MPFI	ECU LED	NONE
PRELUDE	2.0L I4	A20A3	MPFI	ECU LED	NONE
1988					
ACCORD	2.0L I4	A20A3	MPFI	ECU LED	NONE
CIVIC	1.5L I4	D15B2	TBI	ECU LED	NONE
CIVIC CRX	1.5L I4	D15B6, D15B2	MPFI TBI	ECU LED	NONE
CIVIC CRX SI	1.6L I4	D16A6	MPFI	ECU LED	NONE
PRELUDE	2.0L I4	B20A3	2-1V CARB	ECU LED	NONE
PRELUDE	2.0L I4	B20A5	MPFI	ECU LED	NONE
1989					
ACCORD	2.0L I4	A20A3	MPFI	ECU LED	NONE
CIVIC	1.5L I4	D15B1	TBI	ECU LED	NONE
CIVIC, CIVIC WAGON	1.6L I4	D16A6	MPFI	ECU LED	NONE
CIVIC, CIVIC WAGON, CRX	1.5L I4	D15B2	TBI	ECU LED	NONE
CRX HF	1.5L I4	D15B6	MPFI	ECU LED	NONE
CRX SI	1.6L I4	D16A6	MPFI	ECU LED	NONE
PRELUDE	2.0L I4	B20A3	2-1V CARB	ECU LED	NONE
PRELUDE	2.0L I4	B20A5	MPFI	MIL/LED	SCC

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	CODE TYPE	JUMPER TYPE
1990					
ACCORD	2.2L I4	F22A1,	MPFI	MIL/LED	SCC
		F22A4	MPFI	MIL/LED	SCC
CIVIC	1.5L I4	D15B1	TBI	ECU LED	NONE
CIVIC	1.6L I4	D16A6	MPFI	ECU LED	NONE
CRX	1.5L I4	D15B2,	MPFI	ECU LED	NONE
		D15B6	MPFI	ECU LED	NONE
CRX SI	1.6L I4	D16A6	MPFI	ECU LED	NONE
PRELUDE	2.0L I4	B20A3	2-2V CARB	ECU LED	NONE
PRELUDE SI	2.0L I4	B20A5	MPFI	MIL/LED	SCC
PRELUDE SI	2.1L I4	B21A1	MPFI	MIL/LED	SCC
1991					
ACCORD	2.2L I4	F22A1,	MPFI	MIL/LED	SCC
		F22A4	MPFI	ECU LED	SCC
CIVIC	1.5L I4	D15B1	MPFI	ECU LED	NONE
CIVIC	1.6L I4	D16A6	MPFI	ECU LED	NONE
CRX	1.5L I4	D15B2	MPFI	ECU LED	NONE
		D15B6	MPFI	ECU LED	NONE
CRX SI	1.6L I4	D16A6	MPFI	ECU LED	NONE
PRELUDE	2.0L I4	B20A3	2-1V CARB	ECU LED	NONE
PRELUDE SI	2.0L I4	B20A5	MPFI	MIL/LED	SCC
PRELUDE SI	2.1L I4	B21A1	MPFI	MIL/LED	SCC
1992					
ACCORD	2.2L I4	F22A1,	MPFI	MIL/LED	SCC
		F22 A6	MPFI	MIL/LED	SCC
CIVIC	1.5L I4	D15B7,	MPFI	MIL/LED	SCC
		D15B8	MPFI	MIL/LED	SCC
CIVIC	1.5L I4 VTEC– E	D15Z1	MPFI	MIL/LED	SCC
CIVIC	1.6L I4 VTEC	D16Z6	MPFI	MIL/LED	SCC
PRELUDE	2.2, 2.3L I4	F22A1	MPFI	MIL/LED	SCC
		H23A1	MPFI	MIL/LED	SCC
1993					
ACCORD	2.2L I4	F22A1,	MPFI	MIL/LED	SCC
		F22A6	MPFI	MIL/LED	SCC
CIVIC	1.5L I4	D15B7,	MPFI	MIL/LED	SCC
		D15B8	MPFI	MIL/LED	SCC
CIVIC	1.5L I4 VTEC– E	D15Z1	MPFI	MIL/LED	SCC
CIVIC	1.6L I4 VTEC	D16Z6	MPFI	MIL/LED	SCC
CIVIC DEL SOL	1.5, 1.6L I4	D15B7	SMPFI	MIL/LED	SCC
	VTEC	D16Z6	SMPFI	MIL/LED	SCC
PRELUDE	2.2L I4	F22A1	SMPFI	MIL/LED	SCC
PRELUDE	2.2L I4 VTEC	H22A1	SMPFI	MIL/LED	SCC
PRELUDE	2.3L I4	H23A1	SMPFI	MIL/LED	SCC

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	CODE TYPE	JUMPER TYPE
1994					
ACCORD	2.2L I4	F22B2	SMPFI	MIL/LED	SCC
ACCORD	2.2L I4 VTEC	F22B1	SMPFI	MIL/LED	SCC
CIVIC	1.5L I4	D15B7,	SMPFI	MIL/LED	SCC
		D15B8	SMPFI	MIL/LED	SCC
CIVIC	1.5L I4 VTEC	D15Z1	SMPFI	MIL/LED	SCC
CIVIC	1.6L I4 VTEC	D16Z6	SMPFI	MIL/LED	SCC
CIVIC DEL SOL	1.5L I4	D15B7	SMPFI	MIL/LED	SCC
CIVIC DEL SOL	1.6L I4	B16A3	SMPFI	MIL/LED	SCC
CIVIC DEL SOL	1.6L I4 VTEC	D16Z6	SMPFI	MIL/LED	SCC
PRELUDE	2.2L I4	F22A1	SMPFI	MIL/LED	SCC
PRELUDE	2.2L I4 VTEC	H22A1	SMPFI	MIL/LED	SCC
PRELUDE	2.3L I4	H23A1	SMPFI	MIL/LED	SCC

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2. HONDA SPECIFIC INFORMATION

Two Ways to Diagnose Honda

Honda powertrain diagnosis can be performed with the Asian Imports cartridge installed in a Tech 1, Tech 1A, or Mastertech tester. Additionally, Honda vehicles can be diagnosed with the aftermarket version of the Honda OEM level program card software using the Mastertech tester only. Operating instructions and test mode information are available for the OEM level software in the Acura/Honda Program Card Operator's Manual.

If you do not have the necessary Program Card and Mastertech tester to perform OEM level diagnostics, you can use the Asian Imports Cartridge for limited model year coverage. The following Honda section includes the test modes available, how to connect the tester to the vehicle, operating instructions for DTC entry, and the applicable DTCs for each model year.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Honda vehicles. Operating instructions for test modes other than DTC Entry are included in the Common Test Modes OBD, OBD I Systems section. There are also specific instructions for operating the test modes. Refer to Section 6 (Test Modes).

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F2: SCC LOCATION*
- SUBMODE F3: ID INFO
- SUBMODE F5: ECU LOCATION*

* NOTE: Not available on certain Honda vehicles.

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4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Honda vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the optional battery adapter cable.

3. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

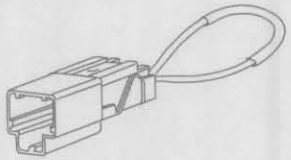
Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

6. When the vehicle has been selected, refer to the Honda Test Modes section for information on how to prepare the vehicle to retrieve DTCs.

   On some late model Honda vehicles, the Service Check Connector (SCC) jumper (P/N 02001935) is required to retrieve DTCs. If available, use F2: SCC LOCATION from the Information menu to locate the service check connector.



Service Check Connector Jumper

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5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite the manufacturer you wish to select.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

Next, the Engine Select menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

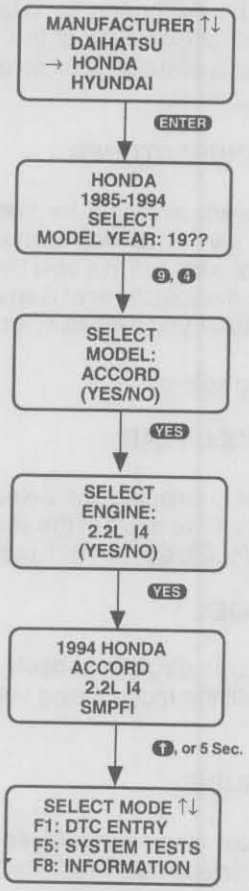
VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems section for instructions on operating the test modes with Honda vehicles.

HONDA VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
ENTER	Confirm Power-up display.
EXIT	Return to previous display.

6. TEST MODES

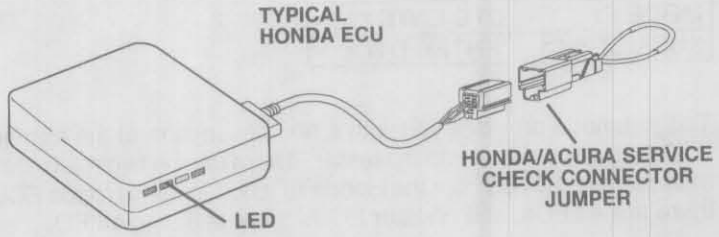
When the Select Mode menu is displayed, test modes available for Honda vehicles may be selected. You may select Mode F1: DTC ENTRY, Mode F5: SYSTEM TESTS or Mode F8: INFORMATION without connecting the tester to the vehicle. General operating instructions for the test modes are included in the Common Test Modes OBD, OBD I Systems section.

Note that early model Honda vehicles did not have a Service Check Connector (SCC). To obtain DTCs from these vehicles, it is not necessary to use the SCC jumper. The Information menu will display F5: ECU LOCATION if the SCC jumper is not required, or it will display F2: SCC LOCATION if the SCC jumper is required.

Detailed operating instructions for using Mode F1: DTC ENTRY with Honda vehicles are included in the following procedure.

READING CODES

When Mode F1: DTC ENTRY and F0: HOW TO READ are selected, the tester informs you if the Service Check Connector (SCC) jumper must be connected to the vehicle SCC. The location of the SCC is available by selecting Mode F2: SCC LOCATON from the Information menu. If necessary, connect the jumper to the SCC.



To read DTC codes on Honda vehicles you must locate the ECU and observe the flashing LEDs. If you are not sure where the ECU is located, select Mode F5: ECU LOCATION from the Information menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

Follow the detailed instructions on the following pages to read the DTCs. Once the DTCs have been read, the tester can define the code. A complete list of Honda DTCs is also included in Section 7.

MODE F1	DTC ENTRY

When Mode F1: DTC ENTRY is selected, the tester displays five submodes:

F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

MODE F1	DTC ENTRY
SUBMODE F0	HOW TO READ

This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECM. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the factory service manual for this information, make sure that you are following the correct steps for the system that you are working on.

MODE F1	DTC ENTRY
SUBMODE F1	ENTER DTCs

This submode provides you with a text description of the numeric DTC that was entered into the tester. There can be two methods to manually read DTCs from the Honda ECUs. On early Honda ECUs there are 4 LEDs, and on later ECUs there is a single LED.

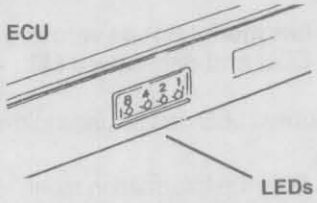
Honda service and repair information indicates that code 0 is supported for OBD systems. Code 0 refers to ECU related failures, and is valid when the engine MIL does not illuminate or will not illuminate for 2 seconds when the ignition is turned on. Refer to the service manual for the current vehicle for further explanation of code 0.

How to enter DTCs for both types is explained on the following pages.

FOUR LEDs

For Hondas with four LEDs, the Enter DTC(s) mode displays four question marks for entering the DTC. The full screen information tells you that if the LED is ON, then press 1. If the LED is OFF, then press 0. Be careful when entering the DTC so that the ECU LED pattern is the same on the tester screen as the ECU. Failure to do so will cause an incorrect DTC description to be displayed. Refer to the following procedure for manually reading 4–LED DTCs on the ECU and entering the number into the tester.

DTC numbers can also be decoded from the LEDs. Each LED has a particular value associated with it. Reading from left to right on the ECU, the values are 8, 4, 2, and 1. If the second and fourth LEDs are ON, that represents a 4 and a 1. Total the values of the ON LEDs and you have the correct DTC. In the example, 4+1=5, so DTC number 5 is set in the engine ECU. Refer to Section 7 (Honda DTCs) for a definition of the DTC.



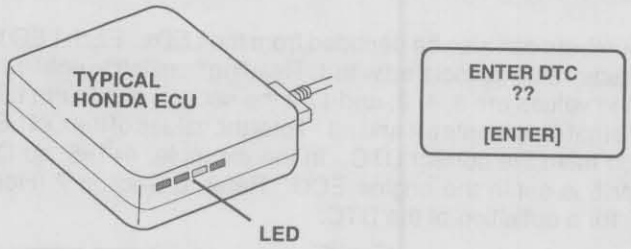

```
ENTER STATE OF 4
LEDs. 1-ON 0-OFF
????
[ENTER]
```

Manually reading DTCs from early model Honda vehicles that use 4–LEDs on ECU:

1. Use F5: ECU LOCATION from the Information menu for help in locating the engine ECU.
2. The ECU LEDs are numbered 8, 4, 2, and 1 as read from left to right.
3. Turn ignition key to ON.
4. Watch the LEDs on the ECU and note which LED is ON.
5. Use F1: ENTER DTCs and if the LED is ON, press 1 on the tester keypad. If the LED is OFF, press 0 on the tester keypad. Example: reading the ECU LEDs from **left to right**, the LEDs indicate ON, OFF, ON, OFF (○●○● OFF ON OFF ON). Press 0, 1, 0, and 1 into the tester, then press ENTER.
6. The resulting code appears on the tester, along with a brief description.
7. Use F4: CLEAR DTCs for DTC clear code information.
8. Turn ignition key off when diagnosis is finished.

ONE LED

For Hondas with a single LED, the Enter DTC(s) submode displays two question marks for entering the DTC. The tester screen prompts you to enter the DTCs read off the ECU LED or the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the ECU LED or MIL, then enter the DTC into the tester. Incorrect ECU LED or MIL interpretation can cause the wrong DTC description to be displayed. Refer to the following procedure for manually reading 1–LED DTCs on the ECU.



Manually reading DTCs from late model Honda vehicles that use 1–LED on ECU, or 1-LED on ECU and dashboard MIL:

1. The MIL and the ECU mounted LED can be used to read DTCs from the ECU.
2. Use F2: SCC LOCATION from the Information menu for help in locating the Service Check Connector (SCC) or F5: ECU LOCATION from the Information menu for help in locating the engine electronic control module.
3. If required, connect the Honda/Acura Code jumper (P/N 02001935) into the SCC.
4. Turn the ignition key to RUN.
5. The MIL and the ECU LED will flash DTCs, if stored in ECU memory.
6. The 10's digit corresponds to a long pulse, and the 1's digit corresponds to a short pulse.
7. Use F1: ENTER DTCs and type manually read DTCs into the tester (or select it from F2: DTC LIST).
8. The resulting code will appear on the tester, along with a brief description.
9. If used, remove the Honda/Acura Code jumper from the SCC.
10. Use F4: CLEAR DTCs for DTC clear code information.
11. Turn ignition key off when diagnosis is finished.

NOTE: For further information, refer to the Factory Service Manual for the vehicle you are testing.

DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

This submode provides you with a text description of the numeric DTC that was selected on the tester display screen. As you scroll through the available DTCs you can select the DTC that matches the DTC output by the ECU. After you perform this step, simply select the DTC on the tester screen for later review or printing.

DTC ENTRY	MODE F1
REVIEW DTC	SUBMODE F3

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

This submode has two options for you to choose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory of DTCs that you entered or selected in the tester.

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7. HONDA DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Honda vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

YEAR	DTC NO.	DESCRIPTOR
1985	0	FAULTY ECU OR MIL CIRCUIT
	1	O2S OR O2S CIRCUIT FAILURE
	2	FAULTY ECU
	3	MAP SENSOR OR MAP CKT FAILURE
	4	FAULTY ECU
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CIRCUIT FAILURE
	8	CKP SENSOR OR CKP CIRCUIT FAIL
	9	CKP SENSOR OR CKP CIRCUIT FAIL
	10	IAT SENSOR OR IAT CKT FAILURE
	11	IDLE MIXTURE ADJ SENSOR/CKT FAIL
	12	EGR SYSTEM OR EGR CKT FAILURE FAULTY ECU
	13	BARO SENSOR OR BARO CKT FAILURE
	14	FAULTY ECU
	15	FAULTY ECU

HONDA DTCs

YEAR	DTC NO.	DESCRIPTOR
1994	0	FAULTY ECU OR ECU CKT FAILURE
	1	HO2S OR HO2S CIRCUIT FAILURE
	3	MAP SENSOR OR MAP CKT FAILURE
	4	CKP SENSOR OR CKP CIRCUIT FAIL
	5	MAP SENSOR OR MAP CKT FAILURE
	6	ECT SENSOR OR ECT CKT FAILURE
	7	TP SENSOR OR TPS CIRCUIT FAILURE
	8	CRANK ANGLE SENSOR - (TDC)
	9	CRANK ANGLE SENSOR - (CYL)
	10	IAT SENSOR OR IAT CKT FAILURE
	12	EGR SYSTEM OR EGR CKT FAILURE
	13	BARO SENSOR OR BARO CKT FAILURE
	14	ELECTRONIC IDLE CONTROL FAILURE
	15	IGNITION OUTPUT SIG. OR CKT FAIL
	16	FUEL INJECTOR FAILURE
	17	VSS OR VSS CIRCUIT FAILURE
	19	A/T LOCK-UP SOL. VALVE A/B
	20	ELECTRIC LOAD SENSOR
	21	VTEC SOLENOID VALVE
	22	VTEC PRESSURE SWITCH
	23	KNOCK SENSOR OR KS CIRCUIT FAIL
	30	A/T FI SIGNAL A
	31	A/T FI SIGNAL B
	41	HO2S HEATER OR CIRCUIT FAILURE
	43	FUEL SUPPLY SYSTEM
	48	HO2S [CIVIC D15Z1 (EXCEPT CA)]

HYUNDAI

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1. VEHICLES AND SYSTEMS

Using the Asian cartridge, the following Hyundai vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	ADAPTER TYPE	CODE TYPE
1989					
SONATA	2.4L I4	G4AS	MPI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES
1990					
EXCEL	1.5L I4	G4AJ	MPI	CHECK	AUTOCODES
SONATA	2.4L I4	G4AS	MPI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES
1991					
EXCEL	1.5L I4	G4AJ	MPI	CHECK	AUTOCODES
SCOUPE	1.5L I4	G4DJ	MPI	CHECK	AUTOCODES
SONATA	2.4L I4	G4AS	MPI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES
1992					
ELANTRA	1.6L I4	G4DR	MPI	CHECK	AUTOCODES
EXCEL	1.5L I4	G4AJ	MPI	CHECK	AUTOCODES
SCOUPE	1.5L I4	G4AJ	MPI	CHECK	AUTOCODES
SONATA	2.0L I4	G4AF	MPI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES

HYUNDAI VEHICLE COVERAGE

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	ADAPTER TYPE	CODE TYPE
1993					
ELANTRA	1.6L I4	G4DR	MPI	CHECK	AUTOCODES
ELANTRA	1.8L I4	G4DM	MPI	CHECK	AUTOCODES
EXCEL	1.5L I4	G4AJ	MPI	CHECK	AUTOCODES
SCOUPE	1.5L I4	G4AE	MPI	NONE	MIL CODES
SONATA	2.0L I4	G4AP	MPI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES
1994					
ELANTRA	1.6L I4	G4DR	MFI	CHECK	AUTOCODES
ELANTRA	1.8L I4	G4DM	MFI	CHECK	AUTOCODES
EXCEL	1.5L I4	G4AJ	MFI	CHECK	AUTOCODES
SCOUPE	1.5L I4	G4AE	MFI	NONE	MIL CODES
SONATA	2.0L I4 DOHC	G4AP	MFI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MPI	CHECK	AUTOCODES
1995					
ACCENT	1.5L I4	G4EK	MFI	NONE	MILCODES
ELANTRA	1.5L I4	G4DJ	MFI	CHECK	AUTOCODES
ELANTRA	1.6L I6	G4DR	MFI	CHECK	AUTOCODES
ELANTRA	1.8L I4	G4DN	MFI	CHECK	AUTOCODES
SCOUPE	1.5L I4	G4AE	MFI	NONE	MILCODES
SONATA	2.0L I4	G4AP	MFI	CHECK	AUTOCODES
SONATA	3.0L V6	G6AT	MFI	CHECK	AUTOCODES
1996					
ACCENT	1.5L I4	G4EK	MFI	**OBD II** *	AUTOCODES
ELANTRA	1.8L I4	G4DM	MFI	**OBD II** *	AUTOCODES
SONATA	2.0L I4	G4AP	MFI	**OBD II** *	AUTOCODES
SONATA	3.0L V6	G6AT	MFI	**OBD II** *	AUTOCODES
1997					
ACCENT	1.5L I4 SOHC	G4EK	MFI	**OBD II** *	AUTOCODES
ACCENT	1.5L I4 DOHC	G4EK	MFI	**OBD II** *	AUTOCODES
ELANTRA	1.8L I4 DOHC	G4DM	MFI	**OBD II** *	AUTOCODES
SONATA	2.0L I4 DOHC	G4AP	MFI	**OBD II** *	AUTOCODES
SONATA	3.0L V6 SOHC	G6AT	MFI	**OBD II** *	AUTOCODES
TIBURON	1.8L I4 DOHC	G4GM	MFI	**OBD II** *	AUTOCODES
TIBURON	2.0L I4 DOHC	G4GF	MFI	**OBD II** *	AUTOCODES

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	ADAPTER TYPE	CODE TYPE
1998					
ACCENT	1.5L I4 SOHC	G4EK	MFI	**OBD II ***	AUTOCODES
ACCENT	1.5L I4 DOHC	G4EK	MFI	**OBD II ***	AUTOCODES
ELANTRA	1.8L I4 DOHC	G4GM	MFI	**OBD II ***	AUTOCODES
SONATA	2.0L I4 DOHC	G4AP	MFI	**OBD II ***	AUTOCODES
SONATA	3.0L V6 SOHC	G6AT	MFI	**OBD II ***	AUTOCODES
TIBURON	1.8L I4 DOHC	G4GM	MFI	**OBD II ***	AUTOCODES
TIBURON	2.0L I4 DOHC	G4GF	MFI	**OBD II ***	AUTOCODES

*** Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

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2. HYUNDAI SPECIFIC INFORMATION

The Hyundai vehicles covered by the Asian Imports Cartridge are separated into two different sections within the Asian Imports Operator's Manual. The vehicle's on-board system will determine which section of the Operator's Manual will need to be used. Vehicles that are OBD II certified have information about the operating test modes in the Common Test Modes OBD II Systems section of the Operator's Manual. Vehicles that have OBD or OBD I systems have test mode information described in this section of the Operator's Manual. In these sections, you will find information on test modes available, how to connect the tester to the vehicle, and operating instructions for the different test modes. A complete list of Hyundai Diagnostic Trouble Codes is included at the back of each section.

To determine which section of the Operator's Manual to use for diagnostic information and instructions, look at Adapter Type of the Vehicle and Systems chart. If the vehicle you are testing has an OBD II adapter type, use the Common Test Modes OBD II Systems section of the Operator's Manual. If the vehicle you are testing does not have the OBD II Adapter Type, use this section to diagnose the vehicle under test.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Hyundai vehicles. Operating instructions for test modes other than F1: DTC ENTRY and F2: DTC are included in the Common Test Modes OBD, OBD I Systems section. There are Hyundai specific instructions for operating the test modes in Section 6 (Test Modes).

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F2: DTC
- SUBMODE F1: READ DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F1: DLC LOCATION*
- SUBMODE F3: ID INFO
- SUBMODE F4: DJC LOCATION*

* Note that not all models support DJC, or DLC Location test modes. The Tester will automatically choose which test mode to display, depending on your vehicle selection.

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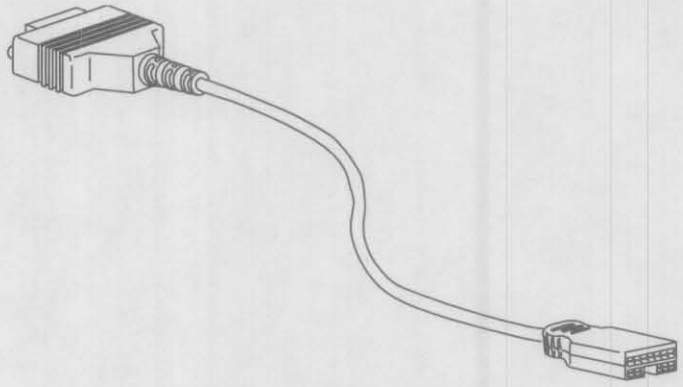
4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Hyundai vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Refer to the chart in Section 1 to see if the vehicle you are testing requires the Check Adapter Cable. If so, connect the Mitsubishi/ Chrysler Imports/Hyundai Check Adapter Cable to the end of the DLC cable, then connect the yellow connector end to the vehicle Check connector.



MITSUBISHI/CHRYSLER IMPORTS/HYUNDAI CHECK ADAPTER CABLE

3. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery clip adapter (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery clip adapter.

4. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

```
ASIAN IMPORTS
83-98

<ENTER>
```

Tester stand-alone display

5. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.
6. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite Hyundai.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Select Model menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE AND ENGINE TYPE

Next, the Select Engine menu is displayed. Press NO until the engine and engine type of the vehicle is displayed, then press YES.

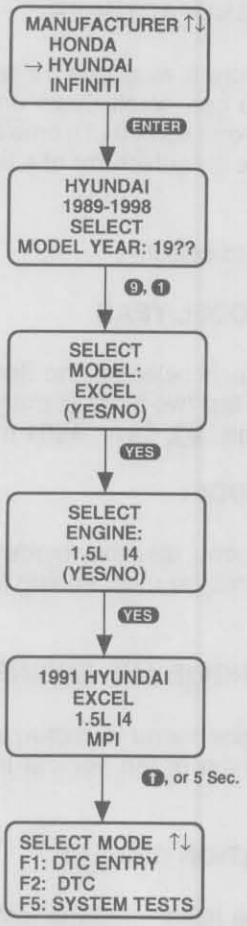
VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes) and the Common Test Modes OBD, OBD I Systems sections for instructions on operating the test modes with Hyundai vehicles.

HYUNDAI VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
EXIT	Return to previous display

6. TEST MODES

When the Select Mode menu is displayed, test modes available for Hyundai vehicles may be selected. You may select Modes F1: DTC ENTRY, F2: DTC, F5: SYSTEM TESTS, and F8: INFORMATION without connecting the tester to the vehicle. Operating instructions for Modes F1: DTC ENTRY and F2: DTCs are included in this section.

READING CODES

Detailed operating instructions for using Modes F1: DTC ENTRY and F2: DTC with Hyundai vehicles are included in the following procedure. F1: DTC ENTRY is displayed for all Hyundai vehicles, and F2: DTC is displayed for Hyundai vehicles that have "AUTOCODES" as the Code Type listed in the Vehicles and Systems table.

IMPORTANT:
Follow the Submode F0: Prepare Vehicle instructions to ensure proper vehicle preparation prior to testing. The vehicle must be completely warmed up in order for the tester to communicate properly with the vehicle.

MODE F1	DTC ENTRY

When Mode F1: DTC ENTRY is selected, the tester displays submodes which, after your selection, can provide information on how to read diagnostic trouble codes (DTCs) from the vehicle, how to clear DTCs from the vehicle (or tester memory), obtain a text description of entered or selected DTCs, and review entered or selected DTCs as a result of manually retrieving codes from the ECU.

DTC ENTRY SUBMODES:
F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

Manually reading DTCs

To manually read Diagnostic Trouble Codes (DTCs) on Hyundai vehicles from 1989-95, there are 2 methods that can be used. The most common method requires an analog voltmeter. Using the analog voltmeter set to a 20 volt scale and connected to the Data Link Connector (DLC), the DTC can be interpreted from the analog voltmeter needle flashes. The second method requires the use of a single wire jumper that is intermittently placed across one pin of the DLC and ground to flash DTCs out on the dashboard mounted Malfunction Indicator Lamp (MIL).

For the automobile manufacturers that mention the use of an analog voltmeter to read manual DTCs, the Mastertech Oscilloscope may be used. Set up the single channel oscilloscope and make connections the same way as the analog voltmeter (above). Choose the 20v/division scale and a slow time/division (e.g. 1-2 sec/division) —the DTCs will be shown as a waveform on the display.

Note that manually retrieving DTCs from 1993-95 Hyundai Scoupe requires you to locate and jumper the Diagnostic Connector, then watch the instrument panel MIL. Refer to the section on manually reading DTCs from the 1993-95 Hyundai vehicles in this section.

Follow the detailed instructions on the following pages to manually read the DTCs. Once the DTCs have been manually read from the ECU, the tester can define the code. A complete list of Hyundai DTCs is also included in Section 7.

DTC ENTRY	MODE F1
HOW TO READ	SUBMODE F0

This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the manual for this information, make sure that you are following the correct steps for the system that you are working on.

DTC ENTRY	MODE F1
ENTER DTC(s)	SUBMODE F1

On Hyundai vehicles, the Enter DTCs submode allows you to enter manually read DTCs. This submode provides you with a text description of the numeric DTC that was entered into the tester.

The Enter DTC Submode displays two question marks for DTC Entry. The tester screen prompts you to enter the DTCs read from the analog voltmeter. Be careful when reading DTCs from the analog voltmeter. Incorrect voltmeter needle interpretation can cause the wrong DTC description to be displayed. Once all DTCs have been manually read and recorded, enter each DTC into the tester as described in the Common Test Modes OBD, OBD I Systems section.

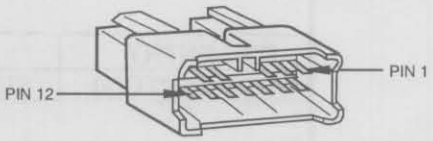
Hyundai service and repair information indicates that code 0 is supported for OBD systems. Code 0 refers to ECU-related failures, and is valid when the engine MIL does not illuminate or will not illuminate for 2 seconds when turning ignition on. Refer to the service manual for the current vehicle for further explanation of code 0.

Refer to the appropriate procedure for manually reading analog voltmeter and MIL ECU DTCs on the following pages.

Manually reading DTCs from Hyundai vehicles that use 12 pin DLC and analog voltmeter:

1. Locate the 12 pin Diagnostic Connector. (Use F1: DLC LOCATION, or F4: DJC LOCATION from the Information menu for help on diagnostic connector location.)

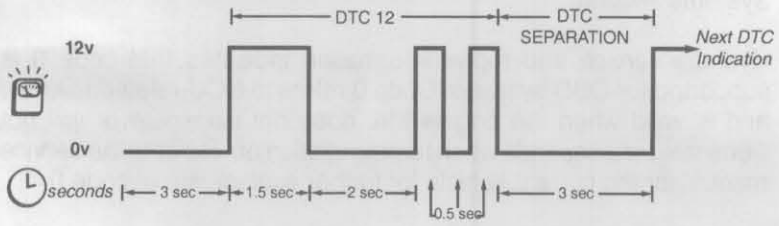
2. Connect analog voltmeter red lead to pin 1 diagnosis terminal and voltmeter black lead to pin 12 (ground) terminal of diagnosis connector. Set analog voltmeter to 20 volt scale.



3. Turn ignition switch to ON.

4. DTC indication will begin on voltmeter.

   Voltmeter will fluctuate 0 volts to 12 volts if DTCs are stored in the ECU. If a DTC is stored in the ECU, the first number of 12 volt, 1.5 second indications will equal the 10's digit of a 2-digit DTC. After a 2.0 second pause, the second number of 12 volt, 0.5 second indications will equal the 1's digit. DTCs are separated by 0 volt indication for 3.0 seconds.



5. If no malfunctions are present, meter will read 12 volts once per second.

6. After recording DTCs turn ignition switch off.

7. Disconnect voltmeter leads.

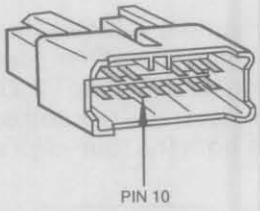
8. Erase DTCs when all repairs are completed.

Manually reading DTCs from 1993-95 Hyundai Scoupe using instrument panel malfunction indicator lamp (MIL)::

1. Locate the 12 pin Diagnostic Connector. (Use F4: DJC LOCATION from the Information menu for help on diagnostic connector location.)

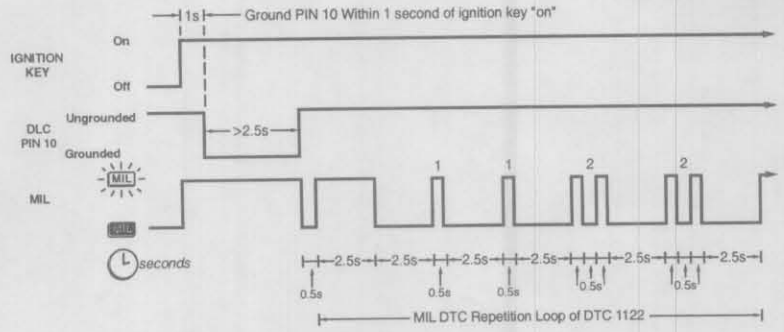
2. Turn ignition key ON, do not start engine.

3. Within 1 second of key ON, ground pin 10 of the diagnostic connector for 2.5 seconds (the jumper configuration best suited for this operation is a double-ended alligator type [with small jaw], about 3 feet long).



4. Observe the Malfunction Indicator Lamp (MIL) to read DTCs. The first MIL output is either the stored DTC or the "no fault detected" DTC (MIL flashes 4-4-4-4). In the case of more than one DTC stored in ECU, each individual DTC is repeated infinitely until pin 10 is grounded again.

   MIL will turn ON/OFF if DTCs are stored in ECU after pin 10 is grounded. If a DTC is stored in ECU, MIL digit flashes are indicated by 0.5 second pulses. MIL digit flashes are separated by a MIL "off" 2.5 second pause.



5. Ground the pin 10 again for 2.5 seconds. The next DTC will be displayed on the MIL. Keep grounding pin 10 until all DTCs are read and the last output is "end of output" DTC (MIL flashes 3-3-3-3).
6. If no malfunctions are present, MIL will flash 4-4-4-4.
7. After recording DTCs turn ignition switch off.
8. Disconnect jumper leads.
9. Erase DTCs when all repairs are completed.

NOTE: On certain Hyundai vehicles, the instrument panel MIL will flash out four-digit DTCs. When four-digit DTCs are manually read from the engine ECU, use F2: DTC LIST (instead of F1: ENTER DTC(s) to select DTCs flashed on the MIL. The F2: DTC LIST mode displays both the four-digit and the corresponding two-digit DTC.

DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions. You can also select the DTCs obtained from the analog voltmeter as an alternative to entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the analog voltmeter or MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to the Common Test Modes OBD, OBD I Systems section for further information.

DTC ENTRY	MODE F1
REVIEW DTC	SUBMODE F3

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

This submode has two options for you to choose. Option F0 is a series of instructions screens which inform you how to clear DTC(s) from the ECU. This is performed by tester keypad presses. Option F1 clears DTCs from the tester's memory that you entered or selected. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

MODE F2	DTC

To read DTCs on 1989-95 vehicles you will need to locate the vehicle DLC and connect the Hyundai Check Adapter to the tester and vehicle.

To locate the DLC, select F1: DLC LOCATION from the Information menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

When Mode F2: DTC is selected, the tester displays four submodes:

DTC SUBMODES:

F1: READ DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

MODE F2	DTC
SUBMODE F1	READ DTC(s)

This submode provides automated DTC retrieval from the vehicle ECU. Step by step screen instructions guide you to connect the YELLOW Mitsubishi/Chrysler Imports/Hyundai Check adapter to the vehicle DLC and start and warm the engine to normal operating temperature. This is performed by following the tester instruction screens. If you have trouble, additional F1: READ DTC(s) retrieval information is described on the next page.

This submode is available for all 1989–95 Hyundai vehicles, excluding 1993-95 Scoupe. If you are unsure of the Read DTC test application, check the code type column in the Hyundai Vehicle Coverage table (found at the beginning of this section). If the Code Type column indicates "Autocodes", then the vehicle supports F1: READ DTC(s).

Note: when reading DTCs from Hyundai vehicles make sure the engine is at normal operating temperature and testing is performed in a well–ventilated area.

Reading DTCs from 1989–1995 Hyundai ECUs using the F1: Read DTCs mode in Asian Imports cartridge:

1. Insert Asian cartridge into MASTERTECH or TECH 1A,
2. Connect Hyundai Check adapter (Yellow) to DLC.
3. Connect the Check adapter to the vehicle DLC. Press F1: DLC LOCATION from the Information menu for Data Link Connector location assistance.
4. Power MASTERTECH or TECH 1A with 12v power cable.
5. Select Hyundai vehicle to test.
6. Press F2: DTCs from Hyundai test mode menu.
7. Press F1: READ DTCs submode from DTC test menu. Follow instructions on the tester display.
8. Tester will automatically command the vehicle ECU into the correct mode required to read DTCs, and will display all received DTCs on the tester display.

NOTE: On certain Hyundai vehicles, the instrument panel MIL flashes out four-digit DTCs. When DTCs are automatically read from the engine ECU with the tester, DTCs are displayed on the tester as two digit. The DTC display screen using this method will have both the two digit and four digit DTCs (four digit DTC in parentheses). For more information on 2 and 4 digit DTCs, refer to the factory service manual.

DTC 23 (3145)
ECT SENSOR OR
CKT FAILURE

IMPORTANT:
Follow the Submode F0: Prepare Vehicle instructions to ensure proper vehicle preparation prior to testing. The vehicle must be completely warmed up in order for the tester to communicate properly with the vehicle.

MODE F2	DTC
SUBMODE F2	DTC LIST

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions. You can also select the DTCs obtained from the analog voltmeter or MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the analog voltmeter or MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to the Common Test Modes OBD, OBD I Systems section for further information.

MODE F2	DTC
SUBMODE F3	REVIEW DTC

This submode provides you with a review of the DTCs that you entered or selected in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTC's that you have encountered during diagnosis.

MODE F2	DTC
SUBMODE F4	CLEAR DTC(s)

This submode has two options for you to chose. Option 1 is to view text screens that provide information on how to clear the DTCs from ECU memory. Option 2 clears the tester memory from DTCs that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

7. HYUNDAI DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Hyundai vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

OBD I SYSTEMS

YEAR	DTC NO.	DESCRIPTOR
1989	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SWITCH OR CKT
	21	ECT SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
	23	NO.1 CYL DTC SENSOR OR CKT
	24	VSS OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	41	FUEL INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1990	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SWITCH OR CKT
	21	ECT SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
	23	NO.1 CYL TDC SENSOR OR CKT
	24	VSS OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	41	FUEL INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR

YEAR	DTC NO.	DESCRIPTOR
1991	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SWITCH OR CKT
	21	ECT SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
	23	NO.1 CYL TDC SENSOR OR CKT
	25	BARO SENSOR OR CKT FAILURE
	24	VSS OR CKT FAILURE
	41	FUEL INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1992	0	ECU OR CIRCUIT FAILURE
	11	O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
	14	TP SENSOR OR TPS CKT FAILURE
	15	MOTOR POSITION SWITCH OR CKT
	21	ECT SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
	23	NO.1 CYL TDC SENSOR OR CKT TDC SENSOR OR CKT FAILURE
	24	VSS OR CKT FAILURE
	25	BARO SENSOR OR CKT FAILURE
	41	FUEL INJECTOR OR CKT FAILURE
	42	FUEL PUMP OR CKT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR
	44	IGNITION SIGNAL OR CKT FAILURE

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1993	0	ECU OR CIRCUIT FAILURE
	11	FRONT O2 SENSOR OR CKT FAILURE
		O2 SENSOR OR CKT FAILURE
	12	AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE
		ECU OR CIRCUIT (ROM FAILURE)
	14	TP SENSOR OR TPS CKT FAILURE
		ECU OR CIRCUIT (RAM FAILURE)
	15	MOTOR POSITION SWITCH OR CKT
	16	ECU OR CIRCUIT (ROM/RAM FAIL)
	17	ECU FAILURE- KNOCK CONTROL
	19	ECU FAILURE KNOCK EVAL CKT
	21	ECT SENSOR OR CKT FAILURE
		O2 SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
		MAF SENSOR OR CIRCUIT FAILURE
	23	NO.1 CYL TDC SENSOR OR CKT
		TDC SENSOR OR CKT FAILURE
		ECT SENSOR OR CKT FAILURE
	24	SPEED SENSOR OR CKT FAILURE
		CAMSHAFT POSIT. SENSOR OR CKT
	25	BARO SENSOR OR CKT FAILURE
		CRANK ANGLE SENSOR OR CKT
	26	TP SENSOR OR TPS CKT FAILURE
	27	KS OR KS CIRCUIT FAILURE
	29	SPEED SENSOR OR CKT FAILURE
	31	BATTERY VOLTAGE OR ALTERNATOR
	33	A/C COMPRESSOR OR CKT FAILURE
	36	BOOST SENSOR FAILURE (HIGH)
	37	BOOST SENSOR CNTRL DEV. FAULT
	38	BOOST CONTROL VALVE FAILURE
	39	BOOST PRESSURE SENSOR FAILURE

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1993 (cont.)	41	FUEL INJECTOR OR CKT FAILURE NO.1 INJECTOR OR CIRCUIT FAILURE
	42	FUEL PUMP OR CKT FAILURE NO.2 INJECTOR OR CIRCUIT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR NO.3 INJECTOR OR CIRCUIT FAILURE
	44	IGNITION SIGNAL OR CKT FAILURE NO.4 INJECTOR OR CIRCUIT FAILURE
	45	PURGE CNTRL SOL. VALVE OR CKT
	47	ISC ACTUATOR FAILURE(OPENING)
	48	ISC ACTUATOR FAILURE(CLOSING)
	53	FUEL PUMP OR CKT FAILURE
	59	REAR O2 SENSOR OR CKT FAILURE
	61	ECU FAILURE-INJ. OR PURGE SOL.
	62	ECU FAILURE-IDLE ACT. OR A/C RLY
	63	ECU FAILURE DRIVING CKT A
	65	ECU FAILURE-INJ PCV ISA A/C RLY
	69	ECU FAILURE DRIVING CKT B
	81	AIR/FUEL CONTROL FAILURE
	82	A/F ADAPTIVE FAILURE-MULTIP.
	83	A/F ADAPTIVE FAILURE A/N
	84	A/F ADAPTIVE FAILURE-ADDITIVE

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1994	0	ECU OR CIRCUIT FAILURE
	11	FRONT HEATED O2 SENSOR OR CKT
		HEATED O2 SENSOR OR CKT FAILURE
		O2 SENSOR OR CKT FAILURE
	12	VOLUME AIR FLOW SENSOR OR CKT
	13	IAT SENSOR OR CKT FAILURE
		ECU OR CIRCUIT (ROM FAILURE)
	14	TP SENSOR OR TPS CKT FAILURE
		ECU OR CIRCUIT (RAM FAILURE)
	15	MOTOR POSITION SENSOR OR CKT
	16	ECU OR CIRCUIT (ROM/RAM FAIL)
	17	ECU FAILURE-KNOCK CONTROL
	19	ECU FAILURE KNOCK EVAL CKT
	21	ECT SENSOR OR CKT FAILURE
		O2 SENSOR OR CKT FAILURE
	22	CRANK ANGLE SENSOR OR CKT
		MAF SENSOR OR CIRCUIT FAILURE
	23	CAMSHAFT POSIT. SENSOR OR CKT
		ECT SENSOR OR CKT FAILURE
	24	VSS OR CIRCUIT FAILURE
		CAMSHAFT POSIT. SENSOR OR CKT
	25	BARO SENSOR OR CKT FAILURE
		CRANK ANGLE SENSOR OR CKT
	26	TP SENSOR OR TPS CKT FAILURE
	27	KS OR KS CIRCUIT FAILURE
	29	VEHICLE SPEED OR CIRCUIT
	31	BATTERY VOLTAGE OR ALTERNATOR
	33	A/C COMPRESSOR OR CKT FAILURE
	36	ECM MAP SENSOR FAILURE (HIGH)
	37	ECM MAP SENSOR CNTRL DEV. FAULT
	38	ECM MAP SENSOR CNTRL VALVE
	39	ECM MAP SENSOR PRESSURE SNSR
	41	FUEL INJECTOR OR CKT FAILURE
		NO.1 INJECTOR OR CIRCUIT FAILURE

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1994 (cont.)	42	FUEL PUMP OR CKT FAILURE
		NO.2 INJECTOR OR CIRCUIT FAILURE
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR
		NO.3 INJECTOR OR CIRCUIT FAILURE
	44	IGNITION SIGNAL OR CKT FAILURE
		NO.4 INJECTOR OR CIRCUIT FAILURE
	45	PURGE CNTRL SOL. VALVE OR CKT
	47	ISC ACTUATOR FAILURE(OPENING)
	48	ISC ACTUATOR FAILURE(CLOSING)
	53	FUEL PUMP OR CKT FAILURE
	59	REAR HEATED O2 SENSOR OR CKT
	61	ECU FAILURE-INJ. OR PURGE SOL.
	62	ECU FAILURE-IDLE ACT. OR A/C RLY
	63	ECU FAILURE DRIVING CKT A
	65	ECU FAILURE-INJ PCV ISA A/C RLY
	69	ECU FAILURE DRIVING CKT B
	81	AIR/FUEL CONTROL FAILURE
	82	A/F ADAPTIVE FAILURE-MULTIP.
	83	A/F ADAPTIVE FAILURE A/N
	84	A/F ADAPTIVE FAILURE-ADDITIVE

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1995	0	ECM INTERNAL FAILURE
	11	FRONT HO2S OR CKT FAILURE
	12	VOL. AIR FLOW SENSOR OR CKT FAILURE
	13	IAT SENSOR OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	13	ECM INTERNAL FAILURE (ACCENT/SCOUPE)
	14	TPS OR CKT FAILURE
	21	ECT OR CKT FAILURE (EXCEPT ACCENT/SCOUPE)
	21	HO2S OR CKT FAILURE (ACCENT/SCOUPE)
	22	CRANK POSITION SENSOR OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	22	MAF SENSOR OR CKT FAILURE (ACCENT/SCOUPE)
	23	CAM POSITION SENSOR OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	23	ECT SENSOR OR CKT FAILURE (ACCENT/SCOUPE)
	24	VSS/REED SWITCH OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	24	CAM POSITION SENSOR OR CKT FAILURE (ACCENT/SCOUPE)
	25	BARO SENSOR OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	25	CRANK POSITION SENSOR OR CKT FAILURE (ACCENT/SCOUPE)
	26	TPS OR CKT FAILURE
	27	KNOCK SENSOR OR CKT FAILURE
	29	VSS OR CKT FAILURE
	31	INCORRECT BATTERY VOLTAGE DETECTED
	33	A/C SWITCH OR RELAY FAILURE
	36	HI BOOST-CHECK WASTEGATE CONTROL SYSTEM
	37	WASTE GATE CONTROL SOL/VAC FAILURE
	38	WASTE GATE CONTROL SOL CKT FAILURE
	41	FUEL INJECTOR OR CKT FAILURE
	41	NO 1 INJECTOR FAILURE (ACCENT/SCOUPE)
	42	FUEL PUMP OR CKT FAILURE
	42	NO 2 INJECTOR FAILURE (ACCENT/SCOUPE)
	43	EGR SYSTEM: VALVE, SOLENOID, VAC, OR TEMP. SENSOR (ALL EXCEPT ACCENT/SCOUPE)
	43	NO 3 INJECTOR FAILURE (ACCENT/SCOUPE)

HYUNDAI DTCs

YEAR	DTC NO.	DESCRIPTOR
1995 (cont.)	44	IGNITION COIL/TRANSISTOR OR CKT FAILURE (ALL EXCEPT ACCENT/SCOUPE)
	44	NO 4 INJECTOR (ACCENT/SCOUPE)
	45	EVAP PURGE VALVE OR CKT FAILURE
	47	ISA OR CKT FAILURE
	59	REAR HO2S OR CKT FAILURE (CAL ELANTRA/ALL SONATA)
	81	A/F LEAN-LEAKING OR CLOGGED INJECTOR
	82	A/F RICH-LEAKING OR CLOGGED INJECTOR
	85	IAT SENSOR SHORT CKT

OBD II SYSTEMS

YEAR	DTC NO.	DESCRIPTION
1996-98 OBD II	P0100	Mass or Volume Air Flow Circuit Malfunction
	P0102	MAF Sensor Circuit, Low Input
	P0103	MAF Sensor Circuit, High Input
	P0105	BARO Pressure Circuit Malfunction
	P0110	IAT Sensor Circuit Malfunction
	P0112	IAT Sensor Circuit, Low Input
	P0113	IAT Sensor Circuit, High Input
	P0115	ECT Circuit Malfunction
	P0116	ECT Circuit, Out of Range
	P0117	ECT Circuit, Low Input
	P0118	ECT Circuit, High Input
	P0120	TPS Circuit Malfunction
	P0121	TPS Circuit Range Does not Agree with MAF Sensor
	P0122	TPS Circuit, Low Input
	P0123	TPS Circuit, High Input
	P0125	Coolant Temp. Low, no Closed Loop Fuel Control
	P0130	O2S Circuit Malfunction, Bank 1 Sensor 1
	P0131	O2S Circuit, Low Voltage, Bank 1 Sensor 1
	P0132	O2S Circuit, High Voltage, Bank 1 Sensor 1
	P0133	O2S Circuit, Slow Response, Bank 1 Sensor 1
	P0134	O2S Circuit, no Activity Detected, Bank 1 Sensor 1
	P0135	O2S Heater Circuit Malfunction, Bank 1 Sensor 1
	P0136	O2S Circuit Malfunction, Bank 1 Sensor 2
	P0137	O2S Circuit, Low Voltage, Bank 1 Sensor 2
	P0138	O2S Circuit, High Voltage, Bank 1 Sensor 2
	P0141	O2S Heater Circuit Malfunction, Bank 1 Sensor 2
	P0170	Fuel Trim Malfunction
	P0201	Fuel Injector No. 1, Circuit Malfunction
	P0202	Fuel Injector No. 2, Circuit Malfunction
	P0203	Fuel Injector No. 3, Circuit Malfunction
	P0204	Fuel Injector No. 4, Circuit Malfunction
	P0205	Fuel Injector No. 5, Circuit Malfunction
	P0206	Fuel Injector No. 6, Circuit Malfunction
	P0300	Random Misfire Detected
	P0301	Cylinder No. 1, Misfire Detected
	P0302	Cylinder No. 2, Misfire Detected
	P0303	Cylinder No. 3, Misfire Detected
	P0304	Cylinder No. 4, Misfire Detected

HYUNDAI DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTION
	P0305	Cylinder No. 5, Misfire Detected
	P0306	Cylinder No. 6, Misfire Detected
	P0326	Knock Sensor Circuit, Out of Range
	P0335	Crankshaft Position Sensor Circuit, Malfunction
	P0336	Crankshaft Position Sensor, Circuit Out of Range
	P0340	Camshaft Position Sensor, Circuit Malfunction
	P0342	Camshaft Position Sensor Circuit, Low Input
	P0343	Camshaft Position Sensor Circuit, High Input
	P0400	EGR Flow, System Malfunction
	P0403	EGR Solenoid Circuit, Malfunction
	P0420	Catalyst Efficiency Below Threshold
	P0421	Warm Up Catalyst Efficiency Below Threshold
	P0422	Main Catalyst Efficiency Below Threshold
	P0440	EVAP Control System Malfunction
	P0441	EVAP Purge System, Incorrect Flow
	P0442	EVAP Control System, Small Leak Detected
	P0443	EVAP Purge Control Valve Circuit Malfunction
	P0444	Purge Control Valve, Circuit Open
	P0445	Purge Control Valve, Circuit Shorted
	P0446	EVAP Control System, Canister Close Valve, Stuck Closed
	P0447	EVAP Control System, Vent Control Valve, Short to Ground
	P0448	EVAP Control System, Vent Control Valve, Short to Battery Voltage
	P0450	EVAP Control System, Fuel Tank Differential Pressure Sensor Malfunction
	P0451	EVAP Control System, Pressure Sensor Signal not Plausible
	P0452	EVAP Control System, Fuel Tank Pressure Sensor Signal Low
	P0453	EVAP Control System, Fuel Tank Pressure Sensor Signal High
	P0455	EVAP Control System, Incorrect Purge Flow
	P0500	Vehicle Speed Sensor Malfunction
	P0501	Vehicle Speed Sensor, Circuit Out of Range
	P0505	Idle Speed Control System Malfunction
	P0506	Idle RPM Lower than Expected
	P0507	Idle RPM Higher than Expected
	P0510	Closed Throttle Sensor Idle Switch Malfunction
	P0562	Power Supply System, Low Voltage
	P0563	Power Supply System, High Voltage
	P0605	Internal Control Module, ROM Error
	P0700	TCM to ECM Input Pulse Malfunction

YEAR	DTC NO.	DESCRIPTION
	P0705	Inhibitor Switch Malfunction
	P0707	A/T Range Circuit, No Input Signal
	P0708	A/T Range Circuit, More than Two Input Signals
	P0712	Transmission Fluid Temp. Sensor, Open Circuit
	P0713	Transmission Fluid Temp. Sensor, Short Circuit
	P0715	Pulse Generator A or B, Open Circuit
	P0717	Pulse Generator A, Open Circuit
	P0722	Pulse Generator B, Open Circuit
	P0727	Ignition Pulse Pickup Circuit
	P0731	1st Gear shift Does Not Match Engine Speed
	P0732	2nd Gear shift Does Not Match Engine Speed
	P0733	3rd Gear shift Does Not Match Engine Speed
	P0734	4th Gear shift Does Not Match Engine Speed
	P0740	Damper Clutch System Malfunction
	P0742	Damper Clutch System Malfunction
	P0743	Damper Clutch System Malfunction
	P0747	Pressure Control Solenoid Valve, Open Circuit
	P0748	Pressure Control Solenoid Valve, Short Circuit
	P0750	Shift Control Circuit Malfunction
	P0752	Shift Control Solenoid A, Open Circuit
	P0753	Shift Control Solenoid Valve A, Short Circuit
	P0757	Shift Control Solenoid Valve B, Open Circuit
	P0758	Shift Control Solenoid Valve B, Short Circuit
	P1123	Long Term Fuel Trim Additive Air, System Too Rich
	P1124	Long Term Fuel Trim Additive Air, System Too Lean
	P1127	Long Term Fuel Trim Multiplicative, System Too Rich
	P1128	Long Term Fuel Trim Multiplicative, System Too Lean
	P1140	Load Detection Sensor, TPS and MAF do not Match
	P1400	MDP Sensor Circuit Malfunction
	P1510	Idle Control Valve, Opening Coil Circuit Shorted
	P1513	Idle Control Valve, Opening Coil Circuit Open
	P1521	P/S Pressure Switch Signal, Malfunction
	P1552	Idle Control Valve, Closing Coil Circuit Shorted
	P1553	Idle Control Valve, Closing Coil Circuit Open
	P1586	MT/AT Encoding Circuit not Rational
	P1605	Acceleration Circuit Malfunction
	P1606	Acceleration Circuit not Rational

YEAR	DTC NO.	DESCRIPTION
	P1611	MIL Request Signal Circuit, Low Input
	P1613	MIL Request Signal Circuit, High Input (Elantra/Tiburon)
	P1614	MIL Request Signal Circuit, High Input (Accent)
	P1624	TCM Component Malfunction
	P1665	Power Stage, Group A Malfunction
	P1670	Power Stage, Group B Malfunction
	P1701	Throttle Position Sensor, Open Circuit
	P1702	Throttle Position Sensor, short Circuit
	P1704	TPS Malfunction or Improper Adjustment
	P1709	Kickdown Servo Switch Circuit
	P1714	Closed Throttle Position Switch Circuit
	P1715	Pulse Generator Assembly Malfunction
	P1744	Damper Clutch System Malfunction
	P1750	Solenoid Assembly Malfunction

INFINITI

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1. VEHICLES AND SYSTEMS

Using the **Asian Imports Cartridge**, the following Infiniti vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ECU MODES	CODE TYPE	ADAPTER TYPE
1990						
M30	3.0L V6	VG30E	EFI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	EFI	2	MIL/LED	NONE
1991						
G20	2.0L I4	SR20DE	EFI	2	MIL/LED	NONE
M30	3.0L V6	VG30E	EFI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	EFI	2	MIL/LED	NONE
1992						
G20	2.0L I4	SR20DE	EFI	2	MIL/LED	NONE
M30	3.0L V6	VG30E	EFI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	EFI	2	MIL/LED	NONE
1993						
G20	2.0L I4	SR20DE	SMPI	2	MIL/LED	NONE
J30	3.0L V6	VG30E	SMPI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	SMPI	2	MIL/LED	NONE
1994						
G20	2.0L I4	SR20DE	SMPI	2	MIL/LED	NONE
J30	3.0L V6	VG30E	SMPI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	SMPI	2	MIL/LED	NONE

INFINITI

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	ECU MODES	CODE TYPE	ADAPTER TYPE
1995						
G20	2.0L I4	SR20DE	SMPI	N/A	AUTOCODES	**OBD II***
J30	3.0L V6	VG30DE	SMPI	2	MIL/LED	NONE
Q45	4.5L V8	VH45DE	SMPI	2	MIL/LED	NONE
1996						
G20	2.0L I4	SR20DE	SMPI	N/A	AUTOCODES	**OBD II***
I30	3.0L V6	VQ30DE	SMPI	N/A	AUTOCODES	**OBD II***
J30	3.0L V6	VG30DE	SMPI	N/A	AUTOCODES	**OBD II***
Q45	4.5L V8	VH45DE	SMPI	N/A	AUTOCODES	**OBD II***
1997						
I30	3.0L V6	VQ30DE	SMPI	N/A	AUTOCODES	**OBD II***
J30	3.0L V6	VG30DE	SMPI	N/A	AUTOCODES	**OBD II***
QX4	3.3L V6	VG33E	SMPI	N/A	AUTOCODES	**OBD II***
Q45	4.1L V8	VH41DE	SMPI	N/A	AUTOCODES	**OBD II***
1998						
I30	3.0L V6	VQ30DE	MFI	N/A	AUTOCODES	**OBD II***
QX4	3.3L V6	VG33E	MFI	N/A	AUTOCODES	**OBD II***
Q45	4.1L V8	VH41DE	MFI	N/A	AUTOCODES	**OBD II***

*** Use Commom Test Modes OBD II Systems section for operating instructions and test mode information.**

2. INFINITI SPECIFIC INFORMATION

The Infiniti vehicles covered by the Asian Imports Cartridge are separated into two different sections within the Asian Imports Operator's Manual. The vehicle's on-board system will determine which section of the Operator's Manual will need to be used. Vehicles that are OBD II certified have information about the operating test modes in the Common Test Modes OBD II Systems section of the Operator's Manual. Vehicles that have OBD or OBD I systems have test mode information in this section of the Operator's Manual. In these sections, you will find information on test modes available, how to connect the tester to the vehicle, and operating instructions for the different test modes. A complete list of Infiniti Diagnostic Trouble Codes is included at the back of each section.

To determine which section of the Operator's Manual to use for diagnostic information and instructions, look at Adapter Type of the Vehicle and Systems chart. If the vehicle you are testing has an OBD II adapter type, use the Common Test Modes OBD II Systems section of the Operator's Manual. If the vehicle you are testing does not have the OBD II Adapter Type, use this section to diagnose the vehicle under test.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Infiniti vehicles. General operating instructions for test modes other than DTC ENTRY are included in the Common Test Modes OBD, OBD I Systems section. There are also Infiniti specific instructions for operating the test modes in Section 6 (Test Modes).

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F3: ID INFO
- SUBMODE F5: ECU LOCATION

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4. GETTING STARTED

Before operating the Asian Imports Cartridge with an Infiniti vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery adapter cable.

3. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

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5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite the manufacturer you wish to select.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

Next, the Engine Select menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

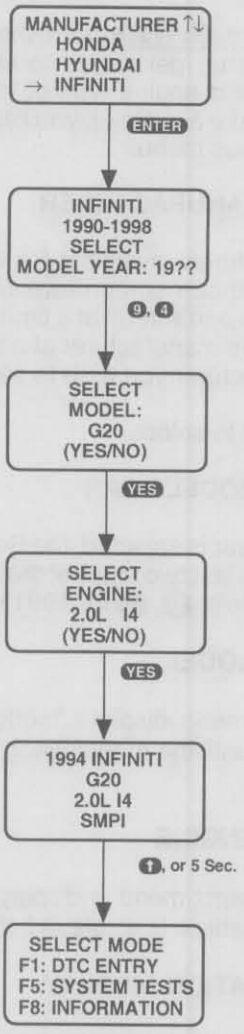
VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems section for operating the test modes with Infiniti vehicles.

INFINITI VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
ENTER	Confirm Power-up display.
EXIT	Return to previous display

6. TEST MODES

When the Select Mode menu is displayed, test modes available for Infiniti vehicles may be selected. You may select Mode F1: DTC ENTRY, Mode F5: SYSTEM TESTS, or Mode F8: INFORMATION without connecting the tester to the vehicle. General operating instructions for the test modes other than DTC Entry are included in the Common Test Modes OBD, OBD I Systems section.

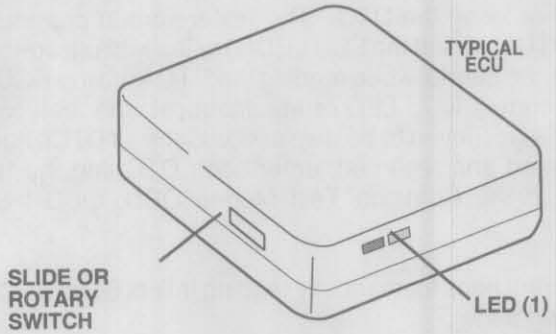
Detailed operating instructions for using Mode F1: DTC ENTRY with Infiniti vehicles are included in the following procedure.

READING CODES

When Mode F1: DTC ENTRY is selected, the tester displays submodes which provide information on how to read diagnostic trouble codes (DTCs) from the vehicle, how to clear DTCs from the vehicle (or tester memory buffer), obtain a text description of entered or selected DTCs, and review entered or selected DTCs as a result of manually retrieving codes from the ECU.

To read DTC codes on Infiniti vehicles you must locate the ECU and observe the flashing LED or instrument panel MIL. If you do not know where the ECU is located, select Mode F5: ECU LOCATION from the Information menu. If necessary, refer to the Common Test Modes OBD, OBD I Systems section for further instructions.

Follow the detailed instructions on the following pages to manually read the DTCs. Once the DTCs have been manually read from the ECU, you can input the DTC into the tester so the tester can define the code. A complete list of Infiniti DTCs is also included in Section 7.



MODE F1	DTC ENTRY

When Mode F1: DTC ENTRY is selected, the tester displays five submodes:

F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

MODE F1	DTC ENTRY
SUBMODE F0	HOW TO READ

This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the factory service manual for this information, make sure that you are following the correct steps for the system you are working on.

MODE F1	DTC ENTRY
SUBMODE F1	ENTER DTC(s)

This submode provides you with a description of how to obtain DTC information from the ECU and how to enter this information into the tester. On Infiniti vehicles, there is one method to enter manually read DTCs which is the Enter DTC submode.

The Enter DTC submode has two question marks on the tester display for entering the DTC. The tester screen prompts you to enter the DTCs read off the ECU LED(s) or the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the ECU LED(s) or MIL. Incorrect ECU LED or MIL interpretation can cause the wrong DTC description to be displayed. Once all DTCs have been manually read and recorded, enter each DTC into the tester as described in the Common Test Modes OBD, OBD I Systems section.

Specific instructions for manually reading Infiniti ECU DTCs are on the following page .

Manually reading DTCs from 1990-95 Infiniti ECU's:

1. Locate the Vehicle ECU.
2. Turn the ignition key to the ON position.
3. Turn the rotary diagnostic test mode selector on the ECU fully clockwise, or move the slide switch to the opposite position.
4. Wait at least 2 seconds.
5. Turn the diagnostic test mode selector fully counter-clockwise, or push the slide switch back to the original position.
6. The self-diagnostic system is now in the self-diagnostic code output mode (Key On, Engine Off, Mode 2).
7. The DTCs are indicated by a flashing red LED and the MIL lamp.
8. Count the flashes on the ECU LED or MIL. Long flashes are the 10's digit and short flashes are the 1's digit.
9 Write down all received DTCs.
10. When DTC recording is complete, turn the rotary diagnostic mode selector fully clockwise, or push the slide switch to the opposite position.
11. Wait at least 2 seconds and then turn the rotary diagnostic mode selector fully counter-clockwise, or push the slide switch back to the original position.

NOTE: For further information, refer to the Factory Service Manual for the vehicle you are testing.

MODE F1	DTC ENTRY
SUBMODE F2	DTC LIST

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions You can also select the DTCs obtained from the ECU LED or MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the ECU LED. You can "Select" the DTC on the tester screen for later review or printing. Refer to Common Test Modes OBD, OBD I Systems section for further information.

MODE F1	DTC ENTRY
SUBMODE F3	REVIEW DTC(s)

This submode provides a way of reviewing DTCs that you selected or entered in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

MODE F1	DTC ENTRY
SUBMODE F4	CLEAR DTC(s)

This submode has two options for you to chose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory of DTCs that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

7. INFINITI DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Infiniti vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

OBD, OBD I SYSTEMS

YEAR	DTC NO.	DESCRIPTOR
1990	11	CKP SENSOR OR CKP CIRCUIT FAIL
	12	AIR FLOW METER CIRCUIT FAILURE
	13	ECT SENSOR OR ECT CKT FAILURE
	14	VSS OR VSS CIRCUIT FAILURE
	16	TCS SIGNAL
	21	IGNITION SIGNAL OR CKT FAILURE
	31	FAULTY ECU OR ECU CKT FAILURE
	32	EGR SENSOR OR EGR CKT FAILURE
	33	O2S OR O2S CIRCUIT FAILURE
	34	KNOCK SENSOR OR KS CKT FAILURE
	35	EXHAUST GAS TEMP SENSOR CIRCUIT
	43	TP SENSOR OR TPS CKT FAILURE
	45	INJECTOR LEAK
	46	SECONDARY TPS OR CKT FAILURE
	51	FUEL INJECTOR OR CKT FAILURE
	54	A/T CONTROLLER CIRCUIT FAILURE
	55	NO DTCs DETECTED BY ECU

INFINITI DTCs

YEAR	DTC NO.	DESCRIPTOR
1991	11	CKP SENSOR OR CKP CIRCUIT FAIL
	12	AIR FLOW METER CIRCUIT FAILURE
	13	ECT SENSOR OR ECT CKT FAILURE
	14	VSS OR VSS CIRCUIT FAILURE
	16	TCS SIGNAL
	21	IGNITION SIGNAL OR CKT FAILURE
	31	FAULTY ECU OR ECU CKT FAILURE
	32	EGR SENSOR OR EGR CKT FAILURE
	33	O2S OR O2S CIRCUIT FAILURE
	34	KNOCK SENSOR OR KS CKT FAILURE
	35	EXHAUST GAS TEMP SENSOR CIRCUIT
	43	TP SENSOR OR TPS CKT FAILURE
	45	INJECTOR LEAK
	46	SECONDARY TPS OR CKT FAILURE
	51	FUEL INJECTOR OR CKT FAILURE
	54	A/T CONTROLLER CIRCUIT FAILURE
	55	NO DTCs DETECTED BY ECU

INFINITI DTCs

YEAR	DTC NO.	DESCRIPTOR
1992	11	CKP SENSOR OR CKP CIRCUIT FAIL
	12	AIR FLOW METER CIRCUIT FAILURE
	13	ECT SENSOR OR ECT CKT FAILURE
	14	VSS OR VSS CIRCUIT FAILURE
	16	TRACTION CONTROL SYSTEM FAILURE
	21	IGNITION SIGNAL OR CKT FAILURE
	22	FUEL PUMP OR FP CIRCUIT FAILURE
	31	FAULTY ECU OR ECU CKT FAILURE
	32	EGR SYSTEM FAIL (CA MODELS)
	33	LEFT O2S OR CIRCUIT FAILURE
	34	KNOCK SENSOR OR KS CKT FAILURE
	35	EXHAUST GAS TEMP SENSOR (CA ONLY)
	42	FUEL TEMP SENSOR OR CKT FAILURE
	43	TP SENSOR OR TPS CKT FAILURE
	45	INJECTOR LEAK (CA MODELS)
	51	INJECTOR CIRCUIT (CA MODELS)
	53	RIGHT O2S OR CIRCUIT FAILURE
	54	TCM TO ECU CIRCUIT FAILURE
	55	NO DTCs DETECTED BY ECU

INFINITI DTCs

YEAR	DTC NO.	DESCRIPTOR
1993	11	CKP SENSOR OR CKP CIRCUIT FAIL
	12	MAF SENSOR OR MAF CKT FAILURE
	13	ECT SENSOR OR ECT CKT FAILURE
	14	VSS OR VSS CIRCUIT FAILURE
	16	TRACTION CONTROL SYSTEM FAILURE
	21	IGNITION SIGNAL OR CKT FAILURE
	31	FAULTY ECM OR ECM CKT FAILURE
	32	EGR SYSTEM FAIL (CA MODELS)
	33	HO2S OR HO2S CIRCUIT FAILURE LEFT HO2S OR HO2S CKT FAILURE
	34	KNOCK SENSOR OR KS CKT FAILURE
	35	EGR TEMP SENSOR (CA MODELS)
	42	FUEL TEMP SENSOR OR CKT FAILURE
	43	TP SENSOR OR TPS CKT FAILURE
	45	INJECTOR LEAK (CA MODELS)
	46	SECONDARY TPS (Q45 WITH TCS)
	51	INJECTOR CIRCUIT (CA MODELS)
	53	RIGHT HO2S OR HO2S CKT FAILURE
	54	TCM TO ECU CIRCUIT FAILURE
	55	NO DTCs DETECTED BY ECM

INFINITI DTCs

YEAR	DTC NO.	DESCRIPTOR
1994	11	CAMSHAFT POS. OR CIRCUIT FAILURE
	12	MAF SENSOR OR MAF CKT FAILURE
	13	ECT SENSOR OR ECT CKT FAILURE
	14	VSS OR VSS CIRCUIT FAILURE
	16	TCS SIGNAL CIRCUIT FAILURE
	21	IGNITION SIGNAL OR CKT FAILURE
	25	IDLE SPD CONTROL FUNCTION
	31	FAULTY ECM OR ECM CKT FAILURE
	32	EGR SENSOR OR EGR CKT FAILURE
	33	FRONT HO2S OR HO2S CKT FAILURE
		LEFT HO2S OR HO2S CKT FAILURE
	34	KNOCK SENSOR OR KS CKT FAILURE
	35	EGR TEMP SENSOR CIRCUIT FAILURE
	36	EGRC-BPT VALVE FUNCTION
	37	CLOSED LOOP CONTROL
	41	IAT SENSOR OR IAT CKT FAILURE
	42	FUEL TEMP SENSOR OR CKT FAILURE
	43	TP SENSOR OR TPS CKT FAILURE
	45	INJECTOR LEAK
	46	SECONDARY TPS OR CKT FAILURE
	51	FUEL INJECTOR OR CKT FAILURE
	53	RIGHT HO2S OR HO2S CKT FAILURE
	54	TCM TO ECM CIRCUIT FAILURE
	55	NO DTCs DETECTED BY ECM
	65	MISFIRE (NO.4 CYLINDER)
	66	MISFIRE (NO.3 CYLINDER)
	67	MISFIRE (NO.2 CYLINDER)
	68	MISFIRE (NO.1 CYLINDER)
	71	MISFIRE (MULTIPLE CYL)
	72	THREE WAY CATALYST FUNC.
	76	FUEL INJECTION SYSTEM FUNCTION
	77	REAR HO2S OR HO2S CKT FAILURE
	82	CKP SENSOR OR CKP CIRCUIT FAIL
	84	A/T DIAGNOSIS COMM. LINE
	91	FRONT HO2S OR HO2S CKT FAILURE
	95	CKP SENSOR OR CKP CIRCUIT FAIL
	98	ECT SENSOR OR ECT CKT FAILURE

INFINITI DTCs

YEAR	DTC NO.	DESCRIPTOR
1995	11	CAM SENSOR CIRCUIT MALFUNCTION
	12	MAF SENSOR CIRCUIT, OPEN OR SHORT
	13	ECT SENSOR CIRCUIT, OPEN OR SHORT
	14	VSS OR CIRCUIT, OPEN OR SHORT
	16	TCS SIGNAL CIRCUIT, OPEN OR SHORT
	21	IGNITION SIGNAL CIRCUIT MALFUNCTION
	31	ECM MALFUNCTION
	32	EGR VALVE OR SOLENOID MALFUNCTION
	33	LEFT HO2 SENSOR CIRCUIT, OPEN OR SHORT
	34	KNOCK SENSOR CIRCUIT, OPEN OR SHORT
	35	EGR TEMP. SENSOR CIRCUIT, OPEN OR SHORT
	43	TPS CIRCUIT, OPEN OR SHORT
	45	FUEL INJECTOR LEAK
	46	SECONDARY TPS CIRCUIT, OPEN OR SHORT
	51	FUEL INJECTOR CIRCUIT, OPEN OR SHORT
	53	RIGHT HO2 SENSOR CIRCUIT, OPEN OR SHORT
	54	A/T COMMUNICATION LINE, OPEN OR SHORT
	55	NO MALFUNCTION DETECTED BY ECM

OBD II SYSTEMS

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0000	No Failures Indicated
	P0100	MAF Sensor Circuit
	P0105	Absolute Pressure Sensor Circuit
	P0110	IAT Sensor Circuit
	P0115	ECT Sensor Circuit
	P0120	TPS Circuit
	P0125	ECT Sensor Circuit, Excessive Time to Enter Closed Loop
	P0130	Front HO2 Sensor Malfunction, no Closed Loop (Right Bank) (Left Bank, Q45)
	P0131	Front HO2 Sensor, Lean Shift Monitor (Right Bank) (Left Bank, Q45)
	P0132	Front HO2 Sensor, Rich Shift Monitor (Right Bank) (Left Bank, Q45)
	P0133	Front HO2 Sensor, Response Monitor (Right Bank) (Left Bank, Q45)
	P0134	Front HO2 Sensor, High Voltage (Right Bank) (Left Bank, Q45)
	P0135	Front HO2 Sensor, Heater Circuit Malfunction (Right Bank) (Left Bank, Q45)
	P0136	Rear HO2 Sensor Circuit Malfunction (Right Bank) (Left Bank, Q45)
	P0137	Rear HO2 Sensor Minimum Voltage Monitor (Right Bank) (Left Bank, Q45)
	P0138	Rear HO2 Sensor Maximum Voltage Monitor (Right Bank) (Left Bank, Q45)
	P0139	Rear HO2 Sensor Response Monitor (Right Bank) (Left Bank, Q45)
	P0140	Rear HO2 Sensor, High Voltage (Right Bank) (Left Bank, Q45)
	P0141	Rear HO2 Sensor, Heater Circuit Malfunction (Right Bank) (Left Bank, Q45)
	P0150	Front HO2 Sensor Malfunction, no Closed Loop (Left Bank) (Right Bank, Q45)
	P0151	Front HO2 Sensor, Lean Shift Monitor (Left Bank) (Right Bank, Q45)
	P0152	Front HO2 Sensor, Rich Shift Monitor (Left Bank) (Right Bank, Q45)
	P0153	Front HO2 Sensor, Response Monitor (Left Bank) (Right Bank, Q45)
	P0154	Front HO2 Sensor, High Voltage (Left Bank) (Right Bank, Q45)
	P0155	Front HO2 Sensor, Heater Circuit Malfunction (Left Bank) (Right Bank, Q45)
	P0156	Rear HO2 Sensor Circuit Malfunction (Left Bank) (Right Bank, Q45)
	P0157	Rear HO2 Sensor Minimum Voltage Monitor (Left Bank) (Right Bank, Q45)
	P0158	Rear HO2 Sensor Maximum Voltage Monitor (Left Bank) (Right Bank, Q45)
	P0159	Rear HO2 Sensor Response Monitor (Left Bank) (Right Bank, Q45)

INFINITI DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0160	Rear HO2 Sensor, High Voltage (Left Bank) (Right Bank, Q45)
	P0161	Rear HO2 Sensor, Heater Circuit Malfunction (Left Bank) (Right Bank, Q45)
	P0170	Fuel Injection System Function
	P0171	Fuel Injection System Lean (Right Bank) (Left Bank, Q45)
	P0172	Fuel Injection System Rich (Right Bank) (Left Bank, Q45)
	P0174	Fuel Injection System Lean (Left Bank) (Right Bank, Q45)
	P0175	Fuel Injection System Rich (Left Bank) (Right Bank, Q45)
	P0180	Temp. Sensor in Fuel Tank, Circuit Malfunction
	P0300	Multiple Cylinder Misfire
	P0301	Cylinder No. 1, Misfire
	P0302	Cylinder No. 2, Misfire
	P0303	Cylinder No. 3, Misfire
	P0304	Cylinder No. 4, Misfire
	P0305	Cylinder No. 5, Misfire
	P0306	Cylinder No. 6, Misfire
	P0325	Knock Sensor Circuit (Left Bank, Q45)
	P0330	Knock Sensor Circuit (Right Bank, Q45)
	P0335	Crankshaft Position Sensor (OBD) Circuit Malfunction
	P0340	Camshaft Position Sensor Circuit Malfunction
	P0400	EGR System Malfunction
	P0402	EGR Control BPT Valve Function
	P0420	3-Way Catalyst Malfunction (Right Bank) (Left Bank, Q45)
	P0430	3-Way Catalyst Malfunction (Left Bank) (Right Bank, Q45)
	P0440	EVAP System, Small Leak Detected
	P0443	EVAP Purge Valve or Solenoid Valve Circuit Malfunction
	P0446	EVAP Vent Control Valve Circuit Malfunction
	P0450	EVAP System Pressure Sensor Malfunction

INFINITI DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P0500	VSS Circuit Malfunction
	P0505	IAC Valve Aux. Air Control Valve Malfunction
	P0510	Closed Throttle Position Switch Malfunction
	P0600	Signal Circuit from A/T to ECM Malfunction
	P0605	ECM Malfunction
	P0705	Park/Neutral Switch or Inhibitor Switch Circuit
	P0710	Trans. Fluid Temp. Sensor Circuit
	P0720	A/T VSS Circuit Malfunction
	P0725	Engine RPM Signal Malfunction
	P0731	A/T 1st Gear Shift Signal Malfunction
	P0732	A/T 2nd Gear Shift Signal Malfunction
	P0733	A/T 3rd Gear Shift Signal Malfunction
	P0734	A/T 4th Gear Shift Signal Malfunction
	P0740	TCC Valve Solenoid Malfunction
	P0744	A/T TCC Solenoid Valve, Improper Lock-Up Operation
	P0745	A/T Line Pressure Solenoid Valve Malfunction
	P0750	Shift Solenoid Valve A Malfunction
	P0755	Shift Solenoid Valve B Malfunction
	P1105	MAP/ BARO Switch Solenoid Valve Malfunction
	P1110	Intake Valve Timing Control (Left Bank, Q45)
	P1120	Secondary TPS Circuit Malfunction
	P1125	Tandem Throttle Position Sensor Circuit Malfunction
	P1135	Intake Valve Timing Control (Right Bank, Q45)
	P1140	Intake Valve Timing Position Sensor (Left Bank, Q45)
	P1145	Intake Valve Timing Position Sensor (Right Bank, Q45)
	P1148	Closed Loop Malfunction (Right Bank) (Left Bank, Q45)
	P1168	Closed Loop Malfunction (Left Bank) (Right Bank, Q45)
	P1220	Fuel Pump Control Module Circuit
	P1320	Ignition Signal Primary Circuit Malfunction
	P1335	Crankshaft Position Sensor (Reference) Circuit Malfunction
	P1336	Crankshaft Position Sensor (OBD) or Flywheel Malfunction
	P1400	EGR Control Solenoid Valve Malfunction
	P1401	EGR Temp. Sensor Circuit
	P1402	EGR System Malfunction
	P1440	EVAP System, Small Leak, Positive Pressure

INFINITI DTCs (CONT.)

YEAR	DTC NO.	DESCRIPTOR
1996-98 OBD II	P1441	Vacuum Cut Bypass Valve, Circuit Malfunction
	P1443	Canister Control Vacuum Check Switch Circuit Malfunction
	P1444	EVAP Purge Volume Control Solenoid Valve
	P1445	EVAP Purge Volume Control Valve
	P1446	EVAP Vent Control Valve Closed
	P1447	EVAP Control System Purge Flow Monitoring
	P1448	EVAP Vent Control Valve Open
	P1490	Vacuum Cut Bypass Valve, Circuit Malfunction
	P1491	Vacuum Cut Bypass Valve Malfunction
	P1492	EVAP Purge Control Valve or Solenoid Valve
	P1493	EVAP Purge Control Valve and Solenoid Valve
	P1605	A/T Diagnosis Communication Line
	P1705	Throttle Position Sensor or Switch
	P1706	Park/Neutral Switch Circuit
	P1760	Overrun Clutch Solenoid Valve

KIA

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1. VEHICLES AND SYSTEMS

Using the **Asian Imports Cartridge**, the following Kia vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL TYPE	CODE TYPE	ADAPTER TYPE
1994	SEPHIA	1.6L I4	MPI	NONE	MILCODES

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2. KIA SPECIFIC INFORMATION

Two Ways to Diagnose Kia

Kia powertrain diagnosis can be performed with the Asian Imports cartridge installed in a Tech 1, Tech 1A, or Mastertech tester. Additionally, Kia vehicles can be diagnosed with the aftermarket version of the Kia OEM level program card software using the Mastertech tester only. Operating instructions and test mode information are available for the OEM level software in the Kia Program Card Operator's Manual.

If you do not have the necessary Program Card and Mastertech tester to perform OEM level diagnostics, you can use the Asian Imports Cartridge for limited model year coverage. The following Kia section includes the test modes available, how to connect the tester to the vehicle, operating instructions for DTC entry, and the applicable DTCs for each model year.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Kia vehicles. Operating instructions for test modes other than DTC Entry are included in the Common Test Modes OBD, OBD I Systems section. There are Kia specific instructions for operating the test modes. Refer to Section 6 (Test Modes).

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F3: ID INFO
- SUBMODE F4: DJC LOCATION
- SUBMODE F5: ECU LOCATION

4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Kia vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery adapter cable.

3. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

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5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite KIA.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 4, for 1994 models.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

Next, the Engine Select menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

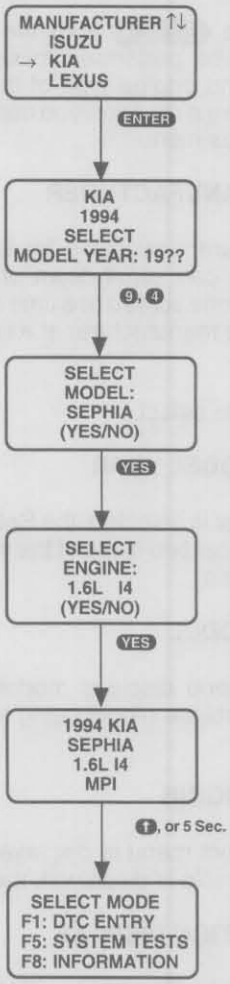
VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 6 (Test Modes), and the Common Test Modes OBD, OBD I Systems section for operating the test modes with Kia vehicles.

KIA VEHICLE SELECTION



ACTIVE KEYS	
↑ ↓	Scrolls through screen display.
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
ENTER	Confirm Power-up display.
EXIT	Return to previous display

6. TEST MODES

When the Select Mode menu is displayed, test modes available for Kia vehicles may be selected. You may select Mode F1: DTC ENTRY, Mode F5: SYSTEM TESTS, or Mode F8: INFORMATION without connecting the tester to the vehicle. Operating instructions for the test modes other than DTC Entry are included in the Common Test Modes OBD, OBD I Systems section.

Detailed operating instructions for using Mode F1: DTC ENTRY with Kia vehicles are included in the following procedure.

READING CODES:

When Mode F1: DTC ENTRY is selected, the tester displays submodes which, after your selection, provide information on how to read diagnostic trouble codes (DTCs) from the vehicle, how to clear DTCs from the vehicle (or tester memory), obtain a text description of entered or selected DTCs, and review entered or selected DTCs as a result of manually retrieving codes from the ECU.

To read DTC codes on Kia vehicles you must connect the single wire Kia jumper (P/N 02002075) to the data link connector (DLC) and observe the flashing MIL. If you do not know where the DLC is located, select Mode F1: DLC LOCATION from the Information menu. If necessary, refer to Common Test Modes OBD, OBD I Systems section for further instructions.

Follow the detailed instructions on the following pages to manually read the DTCs. Once the DTCs have been manually read from the MIL, you can input the DTC into the tester so the tester can define the code. A complete list of Kia DTCs is also included in Section 7.

MODE F1	DTC ENTRY

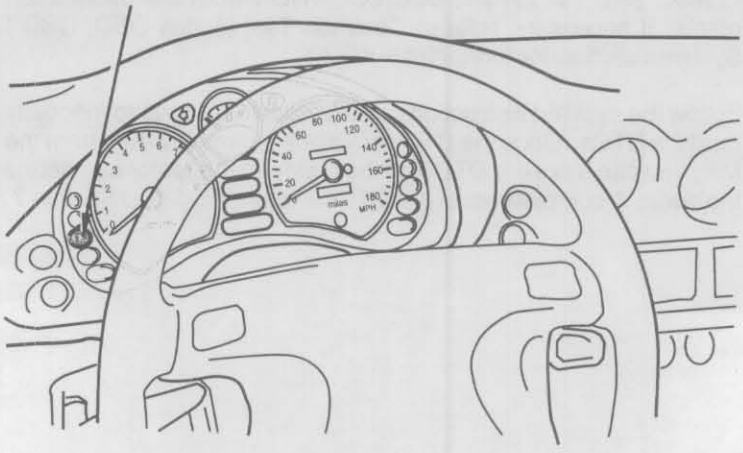
When Mode F1: DTC ENTRY is selected, the tester displays five submodes:

F0: HOW TO READ
F1: ENTER DTC(s)
F2: DTC LIST
F3: REVIEW DTC
F4: CLEAR DTC(s)

Manually Reading DTCs

In order to manually read Diagnostic Trouble Codes (DTCs) on Kia vehicles for 1994, you must locate and jumper the data link connector, then read the Malfunction Indicator Lamp (MIL). This method requires the single wire Kia jumper (P/N 02002075) that is placed across 2 pins of the 20 pin DLC. The DTCs are flashed out on the dashboard mounted MIL. Refer to the section on manually reading DTCs from the 1994 Kia vehicles in this section.

Instrument Panel Malfunction Indicator Light (MIL)



DTC ENTRY	MODE F1
HOW TO READ	SUBMODE F0

This submode provides information on how to manually read DTCs from the vehicle. Step by step screen instructions provide information to correctly set up the vehicle ECU. This is performed by following the tester instruction screens. If you have trouble, additional DTC retrieval information is described below. If you refer to the factory service manual for this information, make sure that you are following the correct steps for the system you are working on.

DTC ENTRY	MODE F1
ENTER DTC(s)	SUBMODE F1

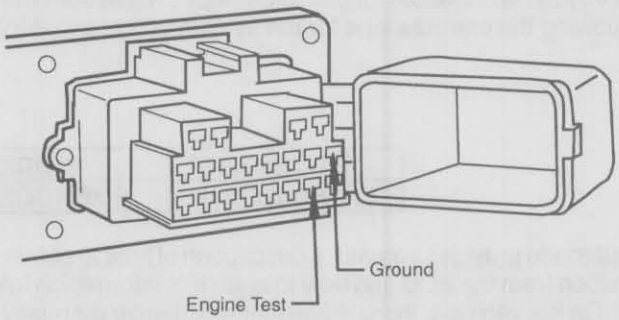
This submode provides you with a description of how to obtain DTC information from the ECU and how to enter this information into the tester. On Kia vehicles, there is one method to enter manually read DTCs which is the Enter DTC submode.

The Enter DTC submode has two question marks on the tester display for entering the DTC. The tester screen prompts you to enter the DTCs read off the Malfunction Indicator Light (MIL). Be careful when reading the DTC from the MIL. Incorrect MIL interpretation can cause the wrong DTC description to be displayed. Once all DTCs have been manually read and recorded, enter each DTC into the tester as described in the Common Test Modes OBD, OBD I Systems section.

Specific instructions for manually reading Kia MIL DTCs are on the following page.

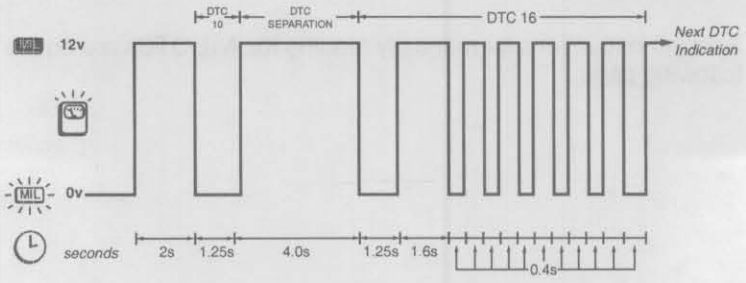
Manually Reading DTCs from Kia Vehicles Using The Instrument Panel Malfunction Indicator Lamp:

1. Locate the 20 pin Data Link Connector (DLC).
2. Jump ENG. TEST and GROUND terminals by connecting the single wire Kia Jumper (P/N 02002075) to the vehicle's 20 pin diagnostic jumper connector.



3. Start and warm engine, running at 2000 rpm for 3 minutes.
4. Dashboard MIL will begin flashing DTCs.

   Long MIL flashes are 10's digits, short flash are 1's digits, with a 1.6 second delay. Each DTC is separated by a 4.0 second interval. The overall DTC series is separated by a 4.0 second interval. If no DTCs are stored in ECU, MIL will not flash.



5. The normal DTC condition is no MIL flash.
6. Disconnect Kia single wire jumper.
7. Erase DTCs when all repairs are completed.

DTC ENTRY	MODE F1
DTC LIST	SUBMODE F2

This submode provides you with a way to view all possible ECU DTCs, including DTC numbers and descriptions You can also select the DTCs obtained from the MIL as an alternative way of entering DTCs into the tester's memory. As you scroll through the available DTCs you can view a description of the DTC obtained from the MIL. You can "Select" the DTC on the tester screen for later review or printing. Refer to Common Test Modes OBD, OBD I Systems section for further information.

DTC ENTRY	MODE F1
REVIEW DTC(s)	SUBMODE F3

This submode provides a way of reviewing DTCs that you selected or entered in the tester. The description of the entered or selected DTC will be displayed, along with a numerical summary of the entered or selected DTC. Review DTC is intended to provide you with an electronic clipboard that keeps track of the DTCs that you have encountered during diagnosis.

DTC ENTRY	MODE F1
CLEAR DTC(s)	SUBMODE F4

This submode has two options for you to choose. Option F0 is to view text screens that provide information on how to clear the DTCs from ECU memory. This is performed by tester keypad presses. Option F1 clears the tester memory of DTCs that you entered or selected in the tester. The clear DTC(s) mode is helpful and provides information that you would normally have to locate in a service manual.

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7. KIA DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Kia vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

YEAR	DTC NO.	DESCRIPTOR
1994	2	NO DISTRIBUTOR NE SIGNAL/CKT
	3	NO DISTRIBUTOR G SIGNAL-4V ONLY
	8	MAF SENSOR/CKT-OPEN OR SHORTED
	9	ECT SENSOR/CKT-OPEN OR SHORTED
	10	IAT (MAF) SNSR/CKT-OPEN/SHORTED
	12	TP SENSOR/CKT-OPEN OR SHORTED
	14	AP (ECM) SENSOR/CKT-OPEN/SHORTED
	15	O2 SENSOR/CKT-LESS THAN 0.55V
	17	FDBK SYS-O2S NO CHANGE FOR 50s
	25	FPRC SOL./CKT-OPEN OR SHORTED
	26	EVAP SOL./CKT-OPEN OR SHORTED
	34	ISC SOL./CKT-OPEN OR SHORTED

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LEXUS

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1. VEHICLES AND SYSTEMS

Using the **Asian Imports Cartridge**, the following Lexus vehicles can be diagnosed.

MODEL	ENGINE	ENGINE TYPE	FUEL SYSTEM	INFO TYPE	ADAPTER TYPE
1990					
ES250	2.5L V6	2VZ–FE	SFI	CODES & DATA	CHECK, TDCL
LS400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
1991					
ES250	2.5L V6	2VZ–FE	SFI	CODES & DATA	CHECK, TDCL
LS400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
1992					
ES300	3.0L V6	3VZ–FE	SFI	CODES & DATA	CHECK, TDCL
SC300	3.0L I6	2JZ–GE	SFI	CODES & DATA	CHECK, TDCL
LS400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
SC400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
1993					
ES300	3.0L V6	3VZ–FE	SFI	CODES & DATA	CHECK, TDCL
GS300	3.0L I6	2JZ–GE	SFI	CODES & DATA	CHECK, TDCL
SC300	3.0L I6	2JZ–GE	SFI	CODES & DATA	CHECK, TDCL
LS400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
SC400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
1994					
ES300	3.0L V6	3VZ–FE	SFI	CODES & DATA	**OBD II***
GS300	3.0L I6	2JZ–GE	SFI	CODES & DATA	CHECK, TDCL
SC300	3.0L I6	2JZ–GE	SFI	CODES & DATA	CHECK, TDCL
LS400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL
SC400	4.0L V8	1UZ–FE	MFI	CODES & DATA	CHECK, TDCL

*** Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

LEXUS

ELECTRONIC TRANSMISSIONS

Using the **Asian Imports Cartridge**, the following Lexus Electronic Transmission/Transaxle Applications can be diagnosed.

Lexus Model	Transmission
SC400 SC300 GS300	A340E
LS400	A341E
ES300	A540E
ES300	A541E

2. LEXUS SPECIFIC INFORMATION

Two Ways to Diagnose Lexus

Lexus powertrain diagnosis can be performed with the Asian Imports cartridge installed in a Tech 1, Tech 1A, or Mastertech tester. Additionally, Lexus vehicles can be diagnosed with the aftermarket version of the Lexus OEM level program card software using the Mastertech tester only. Operating instructions and test mode information are available for the OEM level software in the Lexus Program Card Operator's Manual.

If you do not have the necessary Program Card and Mastertech tester to perform OEM level diagnostics, you can use the Asian Imports Software for limited model year coverage. The following Lexus section includes the test modes available, how to connect the tester to the vehicle, operating instructions for DTC entry, and the applicable DTCs for each model year.

Parameters that can be displayed by Lexus vehicles, along with a description and states or units/range of each parameter are listed in Section 9.

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3. LEXUS OBD SYSTEMS

Lexus vehicles are equipped with On–Board Diagnostic (OBD) systems that operate with engine fuel and emission systems. Lexus OBD systems include transmission (ECT), antilock brake (ABS), cruise control (CCS), air conditioning (A/C), and airbag (AB). For these systems, Lexus vehicles do not use a multiplexed vehicle network, and as a result the separated systems accompany engine OBD systems, with each additional system ECU having it's own diagnostic trouble code (DTC) output line. In addition, engine ECUs support serial data communications. Following is information about each Lexus OBD system.

Engine Data List – Lexus engine serial data list is used to aid in diagnostics for the engine control system. Engine control module, input sensors, input switches, and output actuator data list parameters are provided to the tester by the ECU, via a serial data link. Lexus ECUs update this information at 1.3 seconds/update. Not all Lexus vehicles support data list, and in some cases where the tester has determined that a system is inactive and the data list selection is displayed, data list may still not be supported. If a vehicle has a TDCL and Check DLC, Data List may only be supported on the TDCL DLC. This is a function of the data link connector, so make sure that you are connected to the correct DLC for data list information. Review the Lexus application matrix, column titled Information Type, for the availability of serial data on the vehicle being tested.

Engine DTCs – Lexus engine DTCs are available on Lexus vehicles with electronic engine control. Engine DTCs are set by the engine ECU when problems with, but not limited to, the ECU, air–fuel ratio, throttle position, and air pump control are detected. In addition, Lexus engine ECUs can be commanded to a sensitive test mode, which is found in the Sensitive Test (this test triggers the engine ECU into a sensitive mode which detects engine DTCs using an environment that is less stringent to DTC detection). The Asian Imports application cartridge supports reading engine DTCs automatically or manually, depending on the state (active or inactive) of the engine system.

LEXUS

Electronically Controlled Transmission DTCs – Lexus ECT DTCs are available on select Lexus vehicles with an ECT (refer to the factory service manual for the transmission type for the vehicle you are testing). ECT DTCs are set by the ECT ECU when problems with, but not limited to, the ECU, ATF temperature, accumulator control solenoid, and shift control solenoid(s) are detected. The Asian Imports application cartridge supports reading ECT DTCs automatically or manually, depending on the state (active or inactive) of the ECT system.

Antilock Brake DTCs – Lexus ABS DTCs are available on select Lexus vehicles equipped with ABS. ABS DTCs are set by the ABS ECU when problems with, but not limited to, the ECU, shorted pump motor relay, low brake fluid level, and pressure sensor are detected. The Asian Imports application cartridge supports reading ABS DTCs automatically or manually, depending on the state (active or inactive) of the ABS system.

Cruise Control DTCs – Lexus CCS DTCs are available on select Lexus vehicles with automatic cruise control. CCS DTCs are set by the CCS ECU when problems with, but not limited to, the ECU, actuator malfunction, and cruise control switch are detected. The Asian Imports application cartridge supports reading CCS DTCs automatically or manually, depending on the state (active or inactive) of the CCS system.

Air Conditioning DTCs – Lexus A/C DTCs are available on select Lexus vehicles with automatic air conditioning. A/C DTCs are set by the A/C ECU when problems with, but not limited to, the ECU, room temperature sensor, and air mix door are detected. Note that on some Lexus vehicles the A/C system does not support a dashboard MIL. The Asian Imports application cartridge supports reading A/C DTCs automatically or manually, depending on the state (active or inactive) of the A/C system.

Airbag DTCs – Lexus AB DTCs are available on select late model Lexus vehicles equipped with the airbag system. AB DTCs are set by the AB ECU when problems with, but not limited to, the ECU, squib malfunction, and warning light circuit are detected. The Asian Imports application cartridge supports reading AB DTCs automatically or manually, depending on the state (active or inactive) of the AB system.

A note about the **MIL**– On some of the above systems, the DTC output line is routed to the dashboard mounted system MIL, which flashes out the DTC when the ECU is commanded to the diagnostic mode. In this case, the tester is connected to the vehicle DLC to command the ECU for the system under test into the diagnostic mode. When that process is started, the DTC can be read from the MIL. The DTC can then be entered into the tester for a description.

Refer to Section 6, Selecting the Vehicle, System Inquiry, for more information on inactive system detection.

LEXUS

Which systems are covered by the Asian Imports application cartridge software on the vehicle you are testing?

In order to take advantage of all possible systems available on the vehicle, the Asian Imports application cartridge incorporates an advanced system inquiry strategy that identifies the systems on the vehicle as active or inactive. Some Lexus vehicles can have a single active system, where others can have up to six. So the best possible way to identify the systems on your vehicle is to connect the tester to the Check and TDCL DLCs to determine the available active systems. Refer to Section 6, Selecting the Vehicle, System Inquiry, for more information on Inactive system detection.

The following chart lists Lexus ECUs that can be tested using the Asian Imports Cartridge, the test modes available for each system, and the DLC Cable adapter required. Not all vehicles are equipped with every ECU.

ECU	DATA LIST	DTC(s)	SNAPSHOT	ADAPTER
ENGINE	•	•	•	TDCL/CHECK
ECT		•		TDCL
ABS		•		TDCL
CCS		•		TDCL
A/C		•		TDCL
AIRBAG		•		CHECK

NOTE: If you are using the Asian Imports Cartridge with a TECH 1 tester, the available Lexus OBD systems will be limited to Engine Data List, Engine DTCs, and Transmission DTCs. Also, you will need a different TECH 1 14/15 Pin DLC Cable (P/N 02001980) which can be used with the Toyota/Lexus Check Adapter Cable (P/N 02001896) or the Toyota/Lexus TDCL Adapter Cable (P/N 02001895).

4. TEST MODES AVAILABLE

The Select Mode menu displays test modes available for the selected vehicle and system. Operating instructions for modes F0: DATA LIST, F2: DTC, F3: SNAPSHOT, and F8: INFORMATION are included in the Common Test Modes OBD, OBD I Systems section.

Instructions for selecting and operating mode F2: DTC, Submode F1: READ/ENTER DTCs, and Submode F5: SENSITIVE DTC are included in this section.

MODE F0: DATA LIST - (ENGINE ONLY)

MODE F2: DTC
- SUBMODE F1: READ DTCs (IF SYSTEM IS ACTIVE)
- SUBMODE F1: READ/ENTER DTCs (IF SYSTEM IS INACTIVE)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)
- SUBMODE F5: SENSITIVE DTC (ENGINE ONLY)

MODE F3: SNAPSHOT - (ENGINE SYSTEM ONLY, IF ENGINE SYSTEM IS ACTIVE)

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F1: DLC LOCATION
- SUBMODE F3: ID INFO

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5. GETTING STARTED

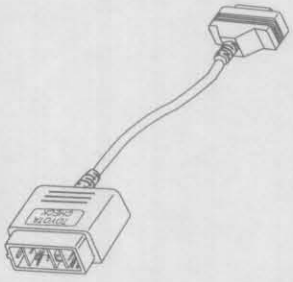
Before operating the Asian Imports Cartridge with a Lexus vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.
2. If the vehicle you are testing is equipped with Overdrive, turn the O/D switch to the ON position.

   NOTE: If the O/D switch is not in the ON position, the tester may not be able to read DTCs from the transmission ECU.
3. When testing a Lexus vehicle, either the Check Adapter Cable or the TDCL Adapter Cable is used to connect the tester to the vehicle DLC. Which adapter cable to use is determined by which system you wish to test. The following chart lists the systems that can be tested with each adapter cable.

ADAPTER	ACTIVE SYSTEMS THAT CAN BE TESTED
CHECK	ENGINE, AIRBAG
TDCL	ENGINE, ECT, ABS, CCS, A/C

Attach the appropriate cable to the end of the tester DLC Cable, then connect the colored end of the cable to the vehicle DLC.



TOYOTA/LEXUS CHECK CONNECTOR CABLE (BLUE)

TOYOTA/LEXUS TDCL CONNECTOR CABLE (GREEN)

4. If the Check connector cable is used, the tester may be powered through the Check connector and it might not be necessary to use the cigarette lighter plug.

   If the TDCL connector is used, plug the tester DC Power Cable into the vehicle cigarette lighter.

   NOTE: Since the cigarette lighter and Check DLC can be switched, some tests, such as the Sens. DTC Test, require that the power cable be directly connected to the battery via the optional battery adapter cable (P/N 02001636).

5. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

6. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

7. Follow the instructions on the following pages to select the vehicle type you are testing.

6. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite the manufacturer you wish to select.

Then press ENTER to select.

REPLAY SNAPSHOT DATA

If Snapshot data is stored in the tester memory, the tester asks if you wish to replay saved Snapshot data. Press YES to replay the saved data, or press NO to proceed to the Vehicle Selection displays.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Select Model menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE

If more than one engine is available for the selected model, a Select Engine menu is displayed. Press NO until the engine type of the vehicle is displayed, then press YES.

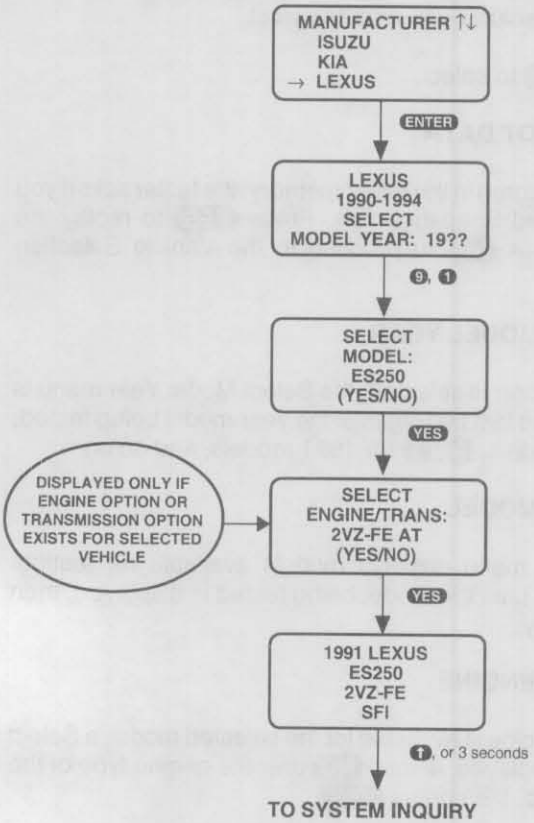
LEXUS

VEHICLE INFORMATION DISPLAY

After the vehicle type is selected the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type. The tester displays the summary screen for three seconds, then automatically advances to the System Inquiry displays.

If the summary screen is not correct, press EXIT to go backward through the vehicle selection displays until you reach the information that needs to be changed.

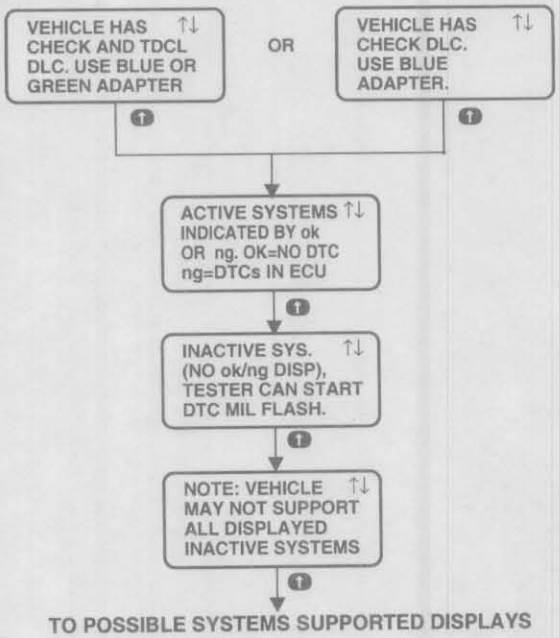
EXAMPLE OF LEXUS VEHICLE SELECTION



SYSTEM INQUIRY

Once the vehicle type is entered, the tester displays which adapter(s) can be used on the selected vehicle and then displays information screens which describe the operating differences between Active and Inactive Lexus OBD systems. Use the up and down arrows to scroll through the information displays.

If a system is Active, the tester can read DTCs directly from the ECU and show the DTC number and description on the tester display. Active systems are identified in the Select System menu with "ok" or "ng" (no good). "ok" is displayed to indicate an active system that does not have DTCs stored in the ECU. "ng" (No Good) is displayed to indicate an active system that does have DTCs stored in the ECU (during the inquiry process the tester determines if the system ECU has stored DTCs or not).



If a system is Inactive, the tester cannot read DTCs directly from the ECU, so the DTCs must be manually read from the dashboard MIL and then entered into the tester using Mode F2, Submode F1: READ/ENTER DTCs. Note that some Inactive systems listed in the Possible System lists may not be supported by the vehicle under test. Inactive systems do not display "ok" or "ng" on the right-hand side of the page (see Select System Menu section).

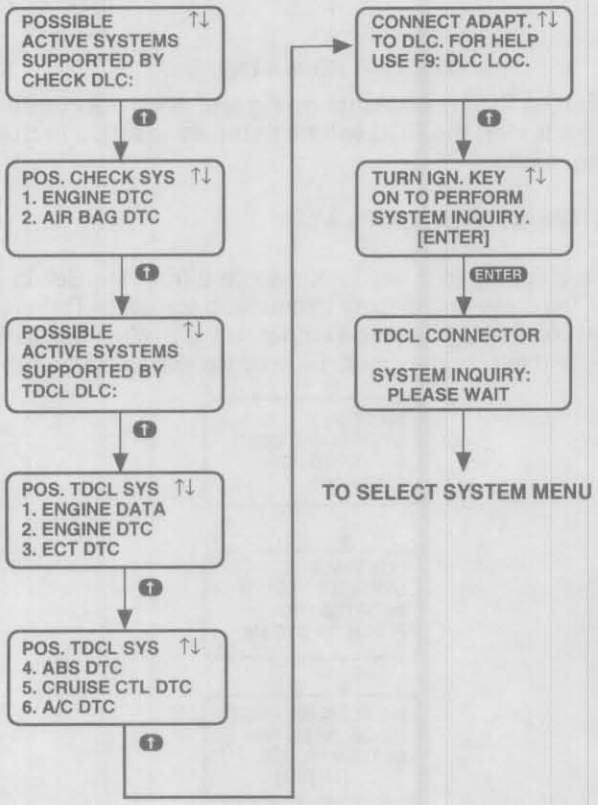
The System Inquiry information screens then display possible Active systems available using the Lexus Check or TDCL Data Link Connector(s) (DLCs).

POSSIBLE SYSTEMS SUPPORTED DISPLAYS

When adapter cable and Active/Inactive information screens have been displayed, the tester instructs you to connect the adapter cable to the tester DLC cable and the vehicle DLC. If you are not sure where the vehicle DLC is located, press F9 at any time during system inquiry for DLC Location information.

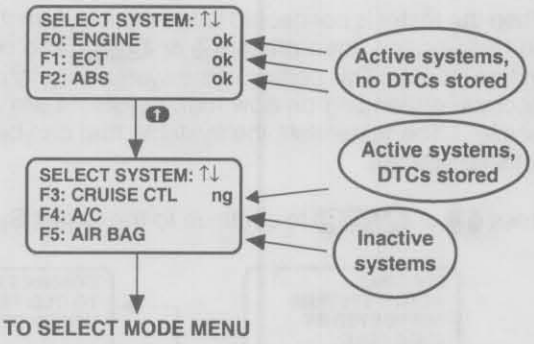
When the tester is connected to the vehicle, turn the ignition key to the ON position, then press ↑ or ENTER to continue with the system inquiry. This portion of the system inquiry can take up to 30 seconds, depending on how many systems are available on the vehicle. The tester lists the systems that can be tested with the installed adapter.

Press ↑ or ENTER to continue to the Select System displays.



SELECT SYSTEM MENU

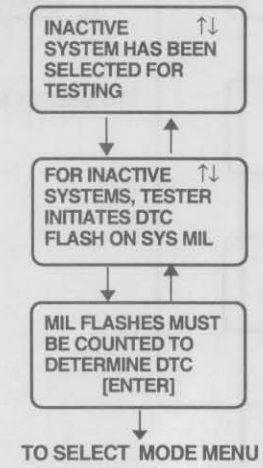
The Select System menu displays the systems available for testing on the selected vehicle. An "ok" or "ng" next to a system indicates that the system is Active, and no asterisk next to a system indicates it is Inactive. Press the function key listed to the left of the system you wish to test to advance to the Select Mode menu.



NOTE: If an ECU is malfunctioning and does not communicate with the tester, the ECU will be listed as Inactive in the Select System menu.

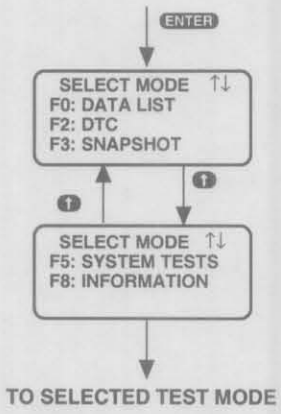
INACTIVE SYSTEM DISPLAYS

If an inactive system has been selected from the Select System Menu, the tester will display information screens. These screens remind you that DTCs will be output on the System MIL Instrument Panel, and MIL flashes must be counted manually to read DTCs.



SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Section 7 (Test Modes) and the Common Test Modes OBD, OBD I Systems section for operating the test modes with Lexus vehicles. A list of Engine system test modes is shown below.



ACTIVE KEYS	
ENTER	Enter the displayed DTC.
↑	Move to the next DTC.
↓	Stop the automatic scrolling.
F9	DLC Location

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7. TEST MODES

The Select Mode menu displays test modes available for the selected vehicle and system. Operating instructions for modes F0: DATA LIST, F2: DTC, F3: SNAPSHOT, and F8: INFORMATION are included in the Common Test Modes OBD, OBD I Systems section.

READING CODES

Instructions for selecting and operating mode F2: DTC, Submode F1: READ/ENTER DTCs, and Submode F5: SENSITIVE DTC are included in this section.

MODE F2	DTC
SUBMODE F1	READ/ENTER DTC(s)

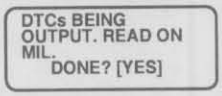
The purpose of the Read/Enter submode is to command the Inactive system ECU to flash DTCs on the dashboard MIL. After the DTC is read from the MIL, a description of the DTCs can then be displayed on the tester screen.

If a Toyota or Lexus system is determined as **Inactive**, the tester will command the ECU to begin flashing the DTC on the system MIL. The F1:READ/ENTER DTC(s) submode displays a message informing you that the tester has initiated DTC flashing on the MIL, and will hold in that mode until you have read the DTC(s) on the MIL.

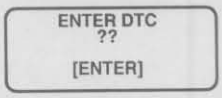
After the DTC is read from the MIL, the tester screen changes to a DTC entry screen. Type in the DTC to obtain a description of the DTC.

OPERATING PROCEDURE

1. Press F2 to select DTCs from the select mode menu.
2. Press F1 to select READ/ENTER DTC(s) from the DTCs menu.
3. The tester displays a message indicating DTCs are being flashed on the MIL. Look at the MIL to read the flashes and determine the DTC. When the DTC cycle is repeated on the MIL and you have recorded the DTC, press YES.



4. Use the tester keypad to enter the DTC displayed on the vehicle system ECU, then press ENTER. An example of the ENTER DTC display for Lexus vehicles is shown below.

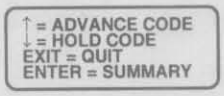


All late model Lexus vehicles with Engine and optional Transmission, ABS, Cruise Control, Air Conditioning, and Airbag systems flash DTCs on the dashboard MIL. On select vehicles, the Air Conditioning system does not have a MIL for DTC reading. DTCs are flashed with the 10's digit first, followed by the 1's digit. There is a 1.5 second period between the 10's and 1's digit, and a 2.5 second period between individual DTCs.

DTC	MODE F2
READ/ENTER DTC(s)	SUBMODE F1

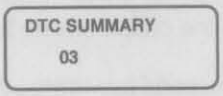
5. When ENTER is pressed, the tester displays the DTC number and a short description of the code.

6. After you enter the DTC, the tester asks for additional trouble code entry. Press YES to enter another DTC. If NO is pressed, the tester displays an instruction screen describing the functions available.



7. Press ↑ to move to the next DTC. If you wish to hold a DTC screen, press ↓ to freeze the automatic scrolling feature.

8. Press ENTER to view a summary screen of all entered DTCs.



9. Press EXIT to return to the DTC menu.

ACTIVE KEYS	
ENTER	Enter the displayed DTC. Also display summary screen.
YES	Enter another DTC.
NO	Advance to instruction screen.
F0 - F9	Enter DTC number.
↑	Move to the next DTC.
↓	Stop the automatic scrolling.
EXIT	Return to DTC menu.

MODE F2	DTC
SUBMODE F5	SENS DTC

SUBMODE F5: SENS DTC

The Sensitive DTC test submode applies to Lexus engine controllers and is only available when the engine system is Active.

Lexus engine ECUs have the capability to enter an increased sensitivity mode to detect fault code conditions. The SENS DTC submode is helpful for diagnosing intermittent problems. If you are using a TECH 1 or TECH 1A tester, power the tester directly from the battery via the optional battery adapter cable (P/N 02001636).

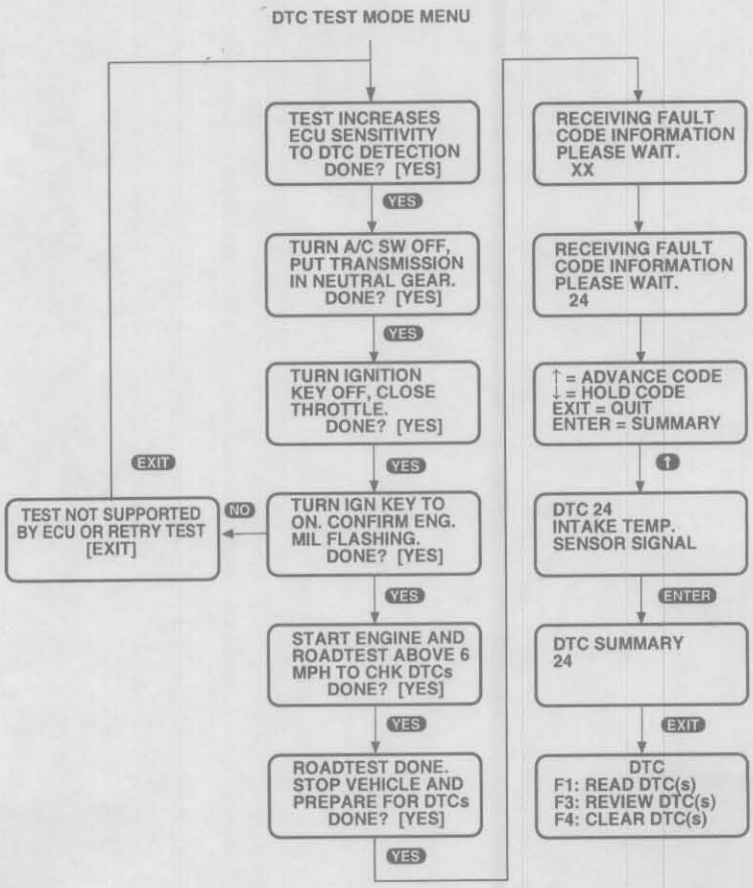
OPERATING PROCEDURE

1. Press F2 to select DTCs from the Select Mode menu.
2. Press F5 to select SENS DTC from the DTC menu.
3. The tester displays instructions for preparing the vehicle to capture DTCs in the Sensitive Mode. Follow the instructions on each display, then press YES to continue.
4. When the vehicle preparations are complete, the tester checks for DTCs, then displays the codes on line four.
5. The tester displays instructions for viewing the DTCs. Press ↑ to view the DTCs.
6. The tester displays the first DTC. Press ↑ to scroll through the captured DTCs. A DTC can be held by pressing the ↓ key while the code is displayed. Press the ↑ key to resume display of the DTCs. An example of a DTC display is shown below.
7. Press ENTER to display a summary of the captured DTCs.
8. Press EXIT to return to the DTC menu.

NOTE: In some cases, Lexus ECUs do not support Sensitive DTC Mode. If the tester cannot command the ECU into Sensitive DTC Mode, an information screen is displayed with test status or a message to retry the test.

DTC	MODE F2
SENS DTC	SUBMODE F5

EXAMPLE OF SENSITIVE DTC SUBMODE INSTRUCTIONS



ACTIVE KEYS	
↑ ↓	Advance to next DTC or hold displayed DTC.
YES	Confirm instructions on display are completed.
NO	Confirm MIL not flashing
ENTER	Display DTC Summary.
EXIT	Return to DTC Entry menu.

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8. LEXUS DIAGNOSTIC TROUBLE CODES (DTCs)

DTCs available for Lexus vehicles are listed in the following charts.

Some code numbers have different descriptors depending on the selected vehicle. Only codes available for the selected vehicle are displayed by the tester.

AIR BAG		
YEAR	DTC NO.	DESCRIPTOR
90-94	11	SQUIB W/H GND OR FRNT SENS. SHORT
	12	SQUIB W/H +B SHORT
	13	SQUIB MALF. (SHORT)
	14	SQUIB MALF. (OPEN)
	15	FRONT SENSOR W/H OPEN
	22	WARNING LIGHT CIRCUIT
	24	AIRBAG SENSOR CONNECTION FAIL
	31	SENSOR ASSEMBLY
	41	MALF. RECORDED IN MEMORY
	53	SQUIB SHORT
	54	SQUIB OPEN
	63	SQUIB SHORT (PRELOADER LEFT)
	64	SQUIB OPEN (PRELOADER LEFT)
	73	SQUIB SHORT (PRELOADER RT)
	74	SQUIB OPEN (PRELOADER RT)

LEXUS

LEXUS DTCs

ANTI-LOCK BRAKE SYSTEM		
YEAR	DTC NO.	DESCRIPTOR
90-94	11	SOLENOID RELAY OPEN
	12	SOLENOID RELAY SHORT
	13	PUMP MOTOR RELAY OPEN
	14	PUMP MOTOR RELAY SHORT
	15	TRAC BRAKE MAIN RELAY OPEN
	16	TRAC BRAKE MAIN RELAY SHORT
	17	TRAC PUMP MOTOR RELAY OPEN
	18	TRAC PUMP MOTOR RELAY SHORT
	21	RF SOLENOID OPEN OR SHORT
	22	LF SOLENOID OPEN OR SHORT
	23	RR SOLENOID OPEN OR SHORT
	24	LR SOLENOID OPEN OR SHORT
	25	MASTER CYL. CUT SOL. OPEN/SHORT
	26	ACCUMULATOR CUT SOL. OPEN/SHORT
	27	RESERVOIR CUT SOL. OPEN/SHORT
	31	RF SPEED SENSOR MALFUNCTION
	32	LF SPEED SENSOR MALFUNCTION
	33	RR SPEED SENSOR MALFUNCTION
	34	LR SPEED SENSOR MALFUNCTION
	35	LF/RR SPEED SENS MALFUNCTION
	36	RF/LR SPEED SENS MALFUNCTION
	37	SPD SENSOR ROTOR WHEEL FAILURE
	38	RR SPEED SENSOR MALFUNCTION
	39	LR SPEED SENSOR MALFUNCTION
	41	VOLTAGE MALFUNCTION

Anti-Lock Brake System continues on next page

LEXUS DTCs

ANTI-LOCK BRAKE SYSTEM (CONTINUED)		
YEAR	DTC NO.	DESCRIPTOR
90-94	42	HIGH VOLTAGE
	43	TRAC SYS/DECEL. SENSOR MALF.
	44	DECELERATION SENS. OPEN/SHORT
	45	DECELERATION SENSOR MALF.
	46	DECELERATION SENSOR MALF.
	47	DECELERATION SENSOR MALF.
	51	ACTUATOR PUMP MOTOR LOCKED
	53	TRAC MOTOR OVER- OPERATING (DUR.)
	54	TRAC MOTOR OVER- OPERATING (FREQ)
	55	LOW BRAKE FLUID LEVEL
	56	PRESSURE SENSOR OPEN OR SHORT
	57	PRESSURE SENSOR STICKING
	61	TRAC ECU COM. LINE OPEN/SHORT
	62	ECU MALFUNCTION
	71	RF SENSOR LOW VOLTAGE
	72	LF SENSOR LOW VOLTAGE
	73	RR SENSOR LOW VOLTAGE
	74	LR SENSOR LOW VOLTAGE
	75	RF SENSOR ABNORMAL FREQ.
	76	LF SENSOR ABNORMAL FREQ.
	77	RR SENSOR ABNORMAL FREQ.
	78	LR SENSOR ABNORMAL FREQ.
	79	DECELERATION SENSOR MALF.

LEXUS DTCs

AIR CONDITIONING		
YEAR	DTC NO.	DESCRIPTOR
90-94	11	ROOM TEMP SENSOR OPEN OR SHORT
	12	AMBIENT TEMP. SENS. OPEN/SHORT
	13	EVAPORATOR TEMP. SENS. OPEN/SHORT
	14	WATER TEMP. SENS. OPEN/SHORT
	15	DUCT SENSOR OPEN/SHORT (Dr)
	16	DUCT SENSOR OPEN/SHORT (Pa)
	21	SOLAR SENSOR OPEN/SHORT (Pa)
	22	COMPRESSOR LOCKED
	23	REFRIGERANT PRESS MALFUNCTION
	24	SOLAR SENSOR OPEN/SHORT (Dr)
	31	AIR MIX POSITION SENSOR
	32	AIR INLET POSITION SENSOR
	33	AIR MIX MALF. OR MODE POTEN. SIG.
	34	AIR INLET MALFUNCTION
	35	AIR BYPASS POS. SENSOR (Pr)
	36	WATER VALVE POSITION SENSOR
	41	AIR MIX MALFUNCTION
	42	AIR INLET MALFUNCTION
	43	MODE MALFUNCTION
	44	AIR BYPASS POS. SENSOR (Dr)
	45	AIR BYPASS POS. SENSOR (Pa)
	46	WATER VALVE POSITION SENSOR

LEXUS DTCs

CRUISE CONTROL SYSTEM		
YEAR	**DTC NO.**	**DESCRIPTOR**
90-94	11	ACTUATOR MALF. (OPEN OR SHORT)
	12	CC MAG. CLUTCH RELEASE VLV FAIL
	13	POSITION SENSOR (OPEN OR SHORT)
	14	ACTUATOR POS. SENSOR MALF.
	21	VEHICLE SPD SENS SIGNAL (METER)
	22	VEHICLE SPD SENS SIGNAL (T/M)
	23	SPEED DECREASED 10 mph (16 Km/h)
	31	RESUME SWITCH ALWAYS ON
	32	CONTROL SWITCH GROUND SHORT
	33	SET & RES SW. ON SIMULTANEOUSLY
	34	CONTROL SWITCH OFF MALFUNCTION
	41	MOTOR ACTUATE MALFUNCTION
	42	SOURCE VOLTAGE DROP

LEXUS DTCs

ELECTRONIC CONTROLLED TRANSMISSION		
YEAR	DTC NO.	DESCRIPTOR
90-94	37	DIRECT CLUTCH SPD SENSOR SIG.
	38	ATF TEMP. SENSOR SIGNAL
	41	THROTTLE POSITION SENSOR
	42	SPD SENSOR SIGNAL (METER)
	44	SPEED SENSOR REAR
	46	ACCUMULATOR CONTROL SOLENOID
	61	SPD SENSOR SIGNAL (T/M)
	62	NO.1 SHIFT CONTROL SOLENOID
	63	NO.2 SHIFT CONTROL SOLENOID
	64	LOCK-UP CONTROL SOLENOID
	65	TIMING SOLENOID
	67	OD DIRECT CLUTCH SPD SENSOR SIG.
	68	KICK-DOWN SWITCH
	73	DIFF. LOCK SOLENOID OPEN
	74	DIFF. LOCK SOLENOID OPEN
	76	NO.3 SHIFT CONTROL SOLENOID
	86	ENGINE SPEED SENSOR
	88	COMMUNICATION ERROR (TCM-ECM)

LEXUS DTCs

ENGINE		
YEAR	**DTC NO.**	**DESCRIPTOR**
90-94	11	ECU (B+)
	12	RPM SIGNAL (CRANKING)
	13	RPM SIGNAL OR PHASE MALF.
	14	IGNITION SIGNAL (IGF1)
	15	IGNITION SIGNAL (IGF2)
	16	AT CONTROL SIGNAL
	17	G1 SIGNAL
	18	G2 SIGNAL
	21	MAIN O2S SIGNAL (& HEATER) FAIL
	22	COOLANT TEMP. SENSOR SIGNAL
	23	INTAKE TEMP. SENSOR SIGNAL
	24	INTAKE TEMP. SENSOR SIGNAL
	25	AIR-FUEL RATIO LEAN MALFUNCTION
	26	AIR-FUEL RATIO RICH MALFUNCTION
	27	SUB LH O2S SIG. (& HEATER) FAIL
	28	MAIN O2S SIGNAL (& HEATER) FAIL
	29	SUB RH O2S SIG. (& HEATER) FAIL
	31	VAF/MAF METER MAP SENSOR SIG.
	32	VAF METER SIGNAL
	33	IAC MALFUNCTION
	34	TURBO PRESSURE MALFUNCTION
	35	BARO/TURBO PRESS SENSOR SIGNAL
	36	CPS SENSOR
	41	THROTTLE POS. SENSOR SIGNAL
	42	VEHICLE SPEED SENSOR SIGNAL

Engine DTCs continue on next page

9. DATA LIST PARAMETER DESCRIPTIONS

The Asian Imports Cartridge is capable of displaying a wide variety of ECU parameters in Data List and Snapshot.

This section provides a description of every parameter that can be displayed for Lexus vehicles. Remember, not all models are capable of displaying all parameters. Only parameters available for the selected vehicle are displayed by the tester.

There are two basic types of ECM parameters: discrete and analog. Discrete parameters are 'bits' of information and can be in only one of two distinct states (on/off, open/closed, etc.). Switches and solenoids are examples of discrete parameters. Analog parameters are used to represent quantities and are displayed as a value with appropriate units. Examples of analog parameters include Engine Speed, Coolant Temperature, Oxygen Sensor Voltage, etc.

LEXUS

A/C CLUTCH SIG.

STATES
ON/OFF

Air Conditioning switch status as input to vehicle ECM; based on state of dashboard A/C switch position. ON=A/C commanded on, OFF= A/C commanded off.

AFM OUTPUT
A/F METER RATIO

UNITS	RANGE
m^3/h	0 - 255 m^3/h

Air Flow Meter (AFM) output signal sent as an input to vehicle ECM (from the Air Flow Meter) and calculated into cubic meter/hour by the ECM; based on the rate of air flow through the AFM.

AFM OUTPUT
A/F METER RATIO

UNITS	RANGE
VOLTS	0 - 5V

Air Flow Meter (AFM) output voltage signal sent to the vehicle ECM from the Air Flow Meter; based on the rate of air flow through the AFM.

AFM SIG. PERIOD

UNITS	RANGE
mS	0 - 66

Time period of Karman-Vortex airflow meter sent as an input to the vehicle ECM from the Karman-Vortex airflow meter; based on the rate of air flow through the KV-AFM

CRANK SIGNAL

STATES
ON/OFF

Crank (starter motor) signal input as sent to vehicle ECU during engine cranking. ON=crank switch on, OFF=crank switch off.

DTC RESULT

STATES
SET/NOT SET

Result of ECM diagnostic self-test which checks for malfunction codes. NOT SET=no diagnostic trouble codes, SET=ECM has detected and stored diagnostic trouble codes.

ENG. COOLANT TMP
(DEGREES)

UNITS	RANGE
DEGREES F	-58 – +260
DEGREES C	-50 – +127

Engine Coolant Temperature input as sent to the vehicle ECM and calculated by the ECM; based on cooling system thermostat condition and engine operation mode.

ENGINE SPEED

UNITS	RANGE
RPM	0 - 10000

Engine Speed signal as input to the vehicle ECU and calculated by the ECU; based on the signal from the distributor pulse generator.

IDLE SWITCH

STATES
ON/OFF

Idle Switch signal status as sent to the vehicle ECM; based on idle switch state in throttle position sensor. ON=switch closed (engine idling), OFF=switch open (engine off-idle).
NOTE: When testing the idle switch make sure the engine is running.

INJECTOR P/W

UNITS	RANGE
mS	0 - 33

Injector solenoid Pulse Width (on-time) based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.

INTAKE AIR PRES.

UNITS	RANGE
mmHg	0 - 1244

Intake Air Pressure/Vacuum signal sent as an input to the vehicle ECM from the MAP/VAC sensor; based on engine load.

INTAKE AIR VOL.

UNITS	RANGE
g/S	0-510

Intake Air Volume is a measure of engine intake air volume through the air Flow Meter in grams per second (g/s). The more throttle opening, the greater intake air volume into the engine. This parameter applies to AFM equipped engines only.

ISC DUTY RATIO

UNITS	RANGE
%	0 - 100

Idle Speed Control (ISC) valve percentage opening based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.

ISC VALVE

UNITS	RANGE
STEPS	0 - 215

Idle Speed Control (ISC) valve step based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.

KNOCK SIGNAL

STATES
ON/OFF

Knock sensor signal correction as commanded by vehicle ECM; based on engine load and indicates that the ECM advance/retard strategy is controlling ignition timing. ON=correction enabled, OFF= correction disabled.

LEAN MIX SENSOR

UNITS	RANGE
mA	0 - 72

Lean mixture sensor current as input to the vehicle ECM; based on air-fuel ratio (O2 content) of exhaust gases.

LEFT A/F FB

STATES
ON/OFF

Leftside air-fuel feedback signal state as commanded by vehicle ECM; based on engine load and left O2 sensor signal inputs to ECM. ON=feedback enabled, OFF=feedback disabled.

LEFT A/F TARGET

UNITS	RANGE
VOLTS	0 - 5V

Target (commanded) air fuel ratio in left-hand exhaust manifold as calculated by vehicle ECM.

LEFT O2S SIGNAL

STATES
RICH/LEAN

Left Oxygen Sensor state flag based on input to vehicle ECU; based on oxygen content in left exhaust stream, RICH=air fuel ratio above 14.7, LEAN=air fuel ratio below 14.7:1.

NEUTRAL SWITCH

STATES
P-N--/-R-DL

Neutral Safety switch status as input to vehicle ECM, based on the current gear selection of the transmission. P-N-- = current gear is PARK or NEUTRAL, -R-DL = current gear is REVERSE, DRIVE, or LOW.

RIGHT A/F FB

STATES
ON/OFF

Rightside air-fuel feedback signal state as commanded by vehicle ECM; based on engine load and right O2 sensor signal inputs to ECM. ON=feedback enabled, OFF=feedback disabled.

RIGHT A/F TARGET

UNITS	RANGE
VOLTS	0 - 5V

Target (commanded) air fuel ratio in right-hand exhaust manifold as calculated by vehicle ECM.

RIGHT O2S SIGNAL

STATES
RICH/LEAN

Right Oxygen Sensor state flag based on input to vehicle ECU; based on oxygen content in right exhaust stream, RICH=air fuel ratio above 14.7, LEAN=air fuel ratio below 14.7:1.

SPARK ADVANCE

UNITS	RANGE
DEGREES	-30 - +90

Ignition timing Spark Advance or Retard signal based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.

THROTTLE ANGLE

UNITS	RANGE
DEGREES	0 - 125

Angle of throttle plate in throttle body as sent to the vehicle ECM and calculated by the ECM; based on current position of throttle position sensor.

VEHICLE SPEED

UNITS	RANGE
MPH	0-125

Vehicle speed signal as input to vehicle ECM and calculated by the ECM; based on vehicle speed sensor input.

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MAZDA

Printed in USA 1/99
Manual P/N 08001911

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1. VEHICLES AND SYSTEMS

Using the Asian cartridge, the following Mazda vehicles can be diagnosed.

MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1983					
GLC	1.5L I4	CARB	E5	CHECK	AUTOCODES
626	2.0L I4	CARB	FE	CHECK	AUTOCODES
1984					
GLC	1.5L I4	CARB	E5	CHECK	AUTOCODES
626	2.0L I4	CARB	FE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	13B	CHECK	AUTOCODES
1985					
GLC	1.5L I4	CARB	E5	CHECK	AUTOCODES
626	2.0L I4	CARB	FE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	13B	CHECK	AUTOCODES
1986					
323	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
626	2.0L I4	EGI EFI	FE	CHECK	AUTOCODES
626	2.0L I4 TURBO	EGI EFI	FE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	RE13B	CHECK	AUTOCODES
B2000	2.0L I4	CARB	FE	CHECK	AUTOCODES
1987					
323	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
323 WAGON	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
626	2.0L I4	EGI EFI	FE	CHECK	AUTOCODES
626	2.0L I4 TURBO	EGI EFI	FE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	RE13B	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI EFI	RE13B	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES

MAZDA

MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1988					
323/PROTEGÉ	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.6L I4 TURBO	EGI EFI	B6	CHECK	AUTOCODES
323 WAGON	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
626/MX6	2.2L I4	EGI EFI	F2	CHECK	AUTOCODES
626/MX6	2.2L I4 TURBO	EGI EFI	F2	CHECK	AUTOCODES
929	3.0L V6	EGI EFI	JE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	RE13B	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI EFI	RE13B	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
1989					
323	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
323	1.6L IL TURBO	EGI EFI	B6	CHECK	AUTOCODES
323 WAGON	1.6L I4	EGI EFI	B6	CHECK	AUTOCODES
626/MX6	2.2L I4	EGI EFI	F2	CHECK	AUTOCODES
626/MX6	2.2L I4 TURBO	EGI EFI	F2	CHECK	AUTOCODES
929	3.0L V6	EGI EFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI EFI	G6	CHECK	AUTOCODES
MPV	3.0L V6	EGI EFI	JE	CHECK	AUTOCODES
RX7	1.3L R2	EGI EFI	RE13B	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI EFI	RE13B	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
B2600i	2.6L I4	EGI EFI	G6	CHECK	AUTOCODES
1990					
323/PROTEGÉ	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 SOHC	EGI MFI	BP	CHECK	AUTOCODES
626/MX6	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
626/MX6	2.2L I4 TURBO	EGI MFI	F2	CHECK	AUTOCODES
929	3.0L V6 DOHC	EGI MFI	JE	CHECK	AUTOCODES
929	3.0L V6 SOHC	EGI MFI	JE	CHECK	AUTOCODES
MPV	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
MX5/MIATA	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
RX7	1.3L R2	EGI MFI	RE13B	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI MFI	RE13B	CHECK	AUTOCODES
B2200	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
B2600i	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES

MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1991					
323/PROTEGÉ	1.6L I4 SOHC	EGI MFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 SOHC	EGI MFI	BP	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
626/MX6	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
626/MX6	2.2L I4 TURBO	EGI MFI	F2	CHECK	AUTOCODES
929	3.0L V6 SOHC	EGI MFI	JE	CHECK	AUTOCODES
929	3.0L V6 DOHC	EGI MFI	JE	CHECK	AUTOCODES
NAVAJO	4.0L V6	MFI	X	NONE	FORDCODES
MPV	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
MX5/MIATA	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
RX7	1.3L R2	EGI MFI	RE13B	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI MFI	RE13B	CHECK	AUTOCODES
B2200	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
B2600i	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
1992					
323/PROTEGÉ	1.6L I4 SOHC	EGI MFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 SOHC	EGI MFI	BP	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
626/MX6	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
626/MX6	2.2L I4 TURBO	EGI MFI	F2	CHECK	AUTOCODES
929	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
NAVAJO	4.0L V6	MFI	X	NONE	FORDCODES
MX3	1.6L I4 SOHC	EGI MFI	B6	CHECK	AUTOCODES
MX3	1.8L I4 DOHC	EGI MFI	K8	CHECK	AUTOCODES
MPV	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
MX5/MIATA	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
B2200	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
B2600i	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES

MAZDA

MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1993					
323/PROTEGÉ	1.6L I4 SOHC	EGI MFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 SOHC	EGI MFI	BP	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
626/MX6	2.0L I4	EGI MFI	FS	CHECK	AUTOCODES
626/MX6	2.5L V6	EGI MFI	KL	CHECK	AUTOCODES
929	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
NAVAJO	4.0L V6	MFI	X	NONE	FORDCODES
MPV	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
MX3	1.8L V6	EGI MFI	K8	CHECK	AUTOCODES
MX3	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
MX5/MIATA	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI MFI	13B	CHECK	AUTOCODES
B2200	2.2L I4	CARB	F2	CHECK	AUTOCODES
B2200	2.2L I4	EGI MFI	F2	CHECK	AUTOCODES
B2600i	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
1994					
323/PROTEGÉ	1.6L I4 SOHC	EGI MFI	B6	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 SOHC	EGI MFI	BP	CHECK	AUTOCODES
323/PROTEGÉ	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
626/MX6 (M/T)	2.0L I4	EGI MFI	FS	CHECK	AUTOCODES
626/MX6 (A/T)	2.0L I4	MFI	FS	NONE	FORDCODES
626/MX6	2.5L V6	EGI MFI	KL	CHECK	AUTOCODES
929	3.0L V6 DOHC	EGI MFI	JE	CHECK	AUTOCODES
NAVAJO	4.0L V6	MFI	X	NONE	FORDCODES
MPV	3.0L V6	EGI MFI	JE	CHECK	AUTOCODES
MPV	2.6L I4	EGI MFI	G6	CHECK	AUTOCODES
MX3	1.6L I4	EGI MFI	B6	CHECK	AUTOCODES
MX3	1.8L I4 DOHC	EGI MFI	K8	CHECK	AUTOCODES
MX5/MIATA	1.8L I4 DOHC	EGI MFI	BP	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	EGI MFI	13B	CHECK	AUTOCODES
B SERIES	2.3L I4	MFI	A	NONE	FORDCODES
B SERIES	3.0L V6	MFI	U	NONE	FORDCODES
B SERIES	4.0L V6	MFI	X	NONE	FORDCODES

MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1995					
323/PROTEGÉ	1.8L I4	EFI	BP	**OBD II ***	AUTOCODES
323/PROTEGÉ	1.5L I4	EFI	Z5	**OBD II ***	AUTOCODES
626/MX6	2.0L DOHC	SFI	FS	CHECK	AUTOCODES
626/MX6	2.5L DOHC	SFI	KL	CHECK	AUTOCODES
929	3.0L V6 DOHC	SFI	JE	CHECK	AUTOCODES
MPV	3.0L V6 DOHC	CIS	JE	CHECK	AUTOCODES
MPV	2.6L I4	MFI	G6	CHECK	AUTOCODES
MX3	1.6L I4	SFI	B6	CHECK	AUTOCODES
MX3	1.8L V6	SFI	K8	CHECK	AUTOCODES
MX5/MIATA	1.8L I4 DOHC	SFI	BP	CHECK	AUTOCODES
RX7	1.3L R2 TURBO	SFI	13B	CHECK	AUTOCODES
B SERIES	2.3L I4	EFI		**OBD II ***	AUTOCODES
B SERIES	3.0L V6	EFI		**OBD II ***	AUTOCODES
B SERIES	4.0L V6	EFI		**OBD II ***	AUTOCODES
1996					
PROTEGÉ	1.5L I4	EFI	Z5	**OBD II ***	AUTOCODES
PROTEGÉ	1.8L I4	EFI	BP	**OBD II ***	AUTOCODES
MILLENIA	2.5L V6	EFI	KL	**OBD II ***	AUTOCODES
MILLENIA	2.3L V6	EFI-MILLER	KJ	**OBD II ***	AUTOCODES
MPV	3.0L V6	EFI	JE	**OBD II ***	AUTOCODES
MX5/MIATA	1.8L I4	SFI	BP	**OBD II ***	AUTOCODES
MX6	2.0L I4	SFI	FS	**OBD II ***	AUTOCODES
MX6	2.5L V6	SFI	KL	**OBD II ***	AUTOCODES
626	2.0L I4	SFI	FS	**OBD II ***	AUTOCODES
626	2.5L V6	SFI	KL	**OBD II ***	AUTOCODES
B SERIES	2.3L I4	EFI		**OBD II ***	AUTOCODES
B SERIES	3.0L V6	EFI		**OBD II ***	AUTOCODES
B SERIES	4.0L V6	EFI		**OBD II ***	AUTOCODES

*** Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

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MODEL	ENGINE	FUEL TYPE	ENGINE TYPE	ADAPTER TYPE	CODE TYPE
1997					
B SERIES	2.3L I4	EFI		**OBD II ***	AUTOCODES
B SERIES	3.0L V6	EFI		**OBD II ***	AUTOCODES
B SERIES	4.0L V6	EFI		**OBD II ***	AUTOCODES
MILLENIA	2.3L V6	EFI-MILLER	KJ	**OBD II ***	AUTOCODES
MILLENIA	2.5L V6	EFI	KL	**OBD II ***	AUTOCODES
MPV	3.0L V6	EFI	JE	**OBD II ***	AUTOCODES
MX5/MIATA	1.8L I4	SFI	BP	**OBD II ***	AUTOCODES
MX6	2.0L I4	SFI	FS	**OBD II ***	AUTOCODES
MX6	2.5LV6	SFI	KL	**OBD II ***	AUTOCODES
PROTEGÉ	1.5L I4	EFI	Z5	**OBD II ***	AUTOCODES
PROTEGÉ	1.8L I4	EFI	BP	**OBD II ***	AUTOCODES
626	2.0L I4	SFI	FS	**OBD II ***	AUTOCODES
626	2.5LV6	SFI	KL	**OBD II ***	AUTOCODES
1998					
B SERIES	2.5L I4	EFI		**OBD II ***	AUTOCODES
B SERIES	3.0L V6	EFI		**OBD II ***	AUTOCODES
B SERIES	4.0L V6	EFI		**OBD II ***	AUTOCODES
MILLENIA	2.5L V6	MEFI	KL	**OBD II ***	AUTOCODES
MILLENIA	2.3L V6	MEFI-MILLER	KJ	**OBD II ***	AUTOCODES
MPV	3.0L V6	MEFI	JE	**OBD II ***	AUTOCODES
MX5/MIATA	1.8L I4	MEFI	BP	**OBD II ***	AUTOCODES
PROTEGÉ	1.5L I4	MEFI	Z5	**OBD II ***	AUTOCODES
PROTEGÉ	1.8L I4	MEFI	BP	**OBD II ***	AUTOCODES
626	2.0L I4	MEFI	FS	**OBD II ***	AUTOCODES
626	2.5L V6	MEFI	KL	**OBD II ***	AUTOCODES
1999					
MX5/MIATA	1.82L I4	MEFI	BP	**OBD II ***	AUTOCODES

*** Use Common Test Modes OBD II Systems section for operating instructions and test mode information.**

2. MAZDA SPECIFIC INFORMATION

The Mazda vehicles covered by the Asian Imports Cartridge are separated into two different sections within the Asian Imports Operator's Manual. The vehicle's on-board system will determine which section of the Operator's Manual will need to be used. Vehicles that are OBD II certified have information about the operating test modes in the Common Test Modes OBD II Systems section of the Operator's Manual. Vehicles that have OBD or OBD I systems have test mode information in this section of the Operator's Manual. In these sections, you will find information on test modes available, how to connect the tester to the vehicle, and operating instructions for the different test modes. A complete list of Mazda Diagnostic Trouble Codes is included at the back of each section.

To determine which section of the Operator's Manual to use for diagnostic information and instructions, look at Adapter Type of the Vehicle and Systems chart. If the vehicle you are testing has an OBD II adapter type, use the Common Test Modes OBD II Systems section of the Operator's Manual. If the vehicle you are testing does not have the OBD II Adapter Type, use this section to diagnose the vehicle under test.

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3. TEST MODES AVAILABLE

The following test modes are available when testing Mazda vehicles. Operating instructions for test modes other than the DTC Entry, DTCs, and OBD Controls are included in the Common Test Modes OBD, OBD I Systems section. There are Mazda specific instructions for operating the test modes in Mazda, Sections 6 and 7.

MODE F1: DTC ENTRY
- SUBMODE F0: HOW TO READ
- SUBMODE F1: ENTER DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F2: DTC
- SUBMODE F1: READ DTC(s)
- SUBMODE F2: DTC LIST
- SUBMODE F3: REVIEW DTC
- SUBMODE F4: CLEAR DTC(s)

MODE F4: OBD CONTROLS
- SUBMODE F0: SWITCH TEST
- SUBMODE F1: O2S MONITOR

MODE F5: SYSTEM TESTS
- SUBMODE F0: PREP VEHICLE

MODE F8: INFORMATION
- SUBMODE F1: DLC LOCATION
- SUBMODE F3: ID INFO

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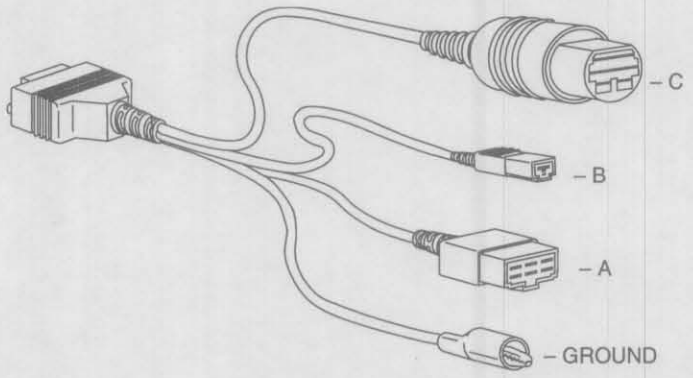
4. GETTING STARTED

Before operating the Asian Imports Cartridge with a Mazda vehicle, the following steps must be performed:

1. Make sure the vehicle ignition is OFF.

2. Refer to the Vehicles and Systems table to see if the vehicle you are testing requires the Check Adapter Cable. If so, connect the Mazda Check Adapter Cable to the end of the DLC cable, then connect the orange connector end to the vehicle check connector.



MAZDA CHECK ADAPTER CABLE

3. Plug the tester power cable into the vehicle cigarette lighter. The power cable may also be directly connected to the battery via the optional battery clip adapter (P/N 02001636).

   NOTE: Since the cigarette lighter can be switched, some tests require that the power cable be directly connected to the battery via the battery clip adapter.

4. Turn on the tester and select the application software that you will be using. Verify that the correct screen is displayed. The tester should display a screen similar to the one below.

Tester stand-alone display

4. If the display is correct, press ENTER. If the display is not correct, refer to Appendix D.

5. Follow the instructions on the following page to select the vehicle type you are testing by entering required vehicle information into the tester.

   NOTE: When removing the Mazda Check Adapter Cable from the vehicle DLC, remember to depress the retaining tab on the vehicle DLC. Failure to do so could cause wiring harness damage.

5. SELECTING THE VEHICLE

Once you've pressed ENTER from the power-up screen, the following steps must be performed to select the manufacturer, model year, model and engine type of the vehicle being tested. Remember, if you make a mistake, you can always press EXIT to go back to the previous menu.

SELECTING THE MANUFACTURER

A menu of manufacturers available for testing is displayed in a scrolling menu. You can scroll down one screen at a time by pressing YES, or up one screen at a time by pressing NO. Press ↑ or ↓ to scroll one manufacturer at a time, until the → arrow is opposite Mazda.

Then press ENTER to select.

SELECTING THE MODEL YEAR

Once the manufacturer is selected, the Select Model Year menu is displayed. Press the last two digits of the year model being tested; 9, 0 for 1990 models, 9, 1 for 1991 models, and so on.

SELECTING THE MODEL

The Model Select menu displays models available for testing. Press the NO key until the model being tested is displayed, then press the YES key.

SELECTING THE ENGINE AND ENGINE TYPE

Next, the Engine Select menu is displayed. For selected vehicles, you will also be asked to select the fuel type, such as EGI MFI. Press NO until the engine and fuel type of the vehicle is displayed, then press YES.

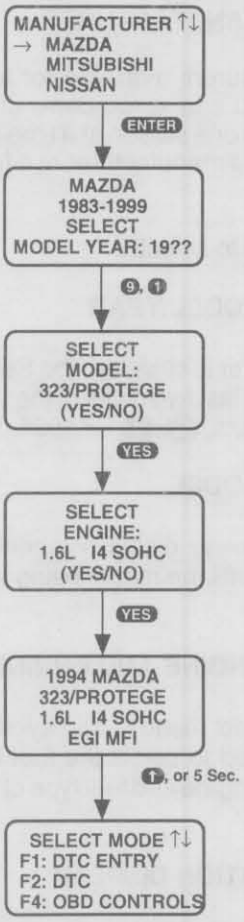
VEHICLE INFORMATION DISPLAY

After the vehicle is selected, the tester displays a summary screen of the selected vehicle. Information displayed includes the year, manufacturer, model, engine size and type, and additional information such as the type of fuel system.

SELECT MODE MENU

When the above steps are completed, the Select Mode menu displays the test modes available for the selected vehicle and system. Refer to Sections 6 (Test Modes), 7 (OBD Controls), and the Common Test Modes OBD, OBD I Systems section for instructions on operating the test modes with Mazda vehicles.

MAZDA VEHICLE SELECTION



ACTIVE KEYS	
0 - 9	Enter model year.
YES NO	Used to answer questions in tester display.
EXIT	Return to previous display