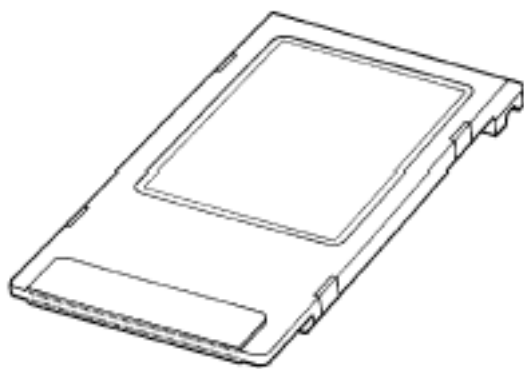


MTS 3100

HONDA/ACURA

1992-2003

OEM Application
Operator's Manual



 **Vetronix Corporation**

Vetronix Corporation

Copyright © 2003

Manual P/N 08002611

Mastertech[®] is a registered trademark of Vetronix Corp.

Printed in USA 2/03

This entire document and all information contained herein are proprietary, confidential, and exclusive trade secret property of Vetronix Corporation, and shall not be reproduced, duplicated, or copied in whole or in part, or made available to any person, firm, or corporation without the prior written permission of Vetronix Corporation.

FCC COMPLIANCE

For MTS 3100 testers sold in North America, this equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Table of Contents

1.	<i>DESCRIPTION OF PROGRAM CARD AND CARTRIDGE USE . . .</i>	1
	<i>Using An Application Program Card</i>	2
	<i>Using An Application Cartridge</i>	2
	<i>Using The Help Key</i>	2
2.	<i>OPERATING PRECAUTIONS</i>	3
3.	<i>IDENTIFYING THE VEHICLE AND SELECTING A TEST SYSTEM</i>	5
	IDENTIFYING THE VEHICLE	7
	<i>Selecting Honda Systems</i>	7
	<i>Selecting Passport/SLX</i>	11
	SELECTING THE SYSTEM TO TEST	13
	<i>Standalone Mode</i>	14
	TESTING “CARRYOVER” VEHICLES	15
	OTHER EQUIPMENT	15
	TEST MODE MENU	15
4.	<i>GETTING STARTED</i>	16
	CONNECTING THE MTS 3100 TO THE VEHICLE	16
	CONNECTOR LOCATION CHARTS	21
5.	<i>USING THE TEST MODES AND FUNCTIONS</i>	23
	TEST MODES AND FUNCTIONS MENUS	23
	<i>PGM-FI and DBW Systems Test Modes</i>	24
	<i>A/T and CVT System Test Modes</i>	26
	<i>1996 and Later Passport and SLX Test Modes</i>	28
	<i>Setup and Self-Test Modes</i>	30
	TEST MODE DESCRIPTIONS	31
	OPERATING FROM THE TEST MODE MENU	33
	<i>Selecting the Character Size</i>	33
	USING THE TROUBLESHOOT MODE	34
	<i>Precautions When Troubleshooting OBD II-Equipped Vehicles</i>	34
	<i>Troubleshoot 2: TROUBLESHOOT RESULTS</i>	39
	USING THE DTCS MODE	43
	<i>Non-OBD II Vehicle DTCs</i>	43
	<i>OBD II Vehicle DTCs</i>	44
	<i>Using the DTCs Mode for Carryover Vehicles</i>	45

<i>DTCs 1: DTCs</i>	46
<i>If an OBD II DTC Is Present</i>	47
<i>If a DTC Is Not Present</i>	48
<i>DTCs 2: RESULTS</i>	48
USING THE DATA LIST MODE	50
<i>Selecting an OBD II Engine Data List</i>	50
<i>Selecting a Data List Mode</i>	51
<i>Data List 1: ALL DATA LIST</i>	52
<i>Data List 2: CUSTOM LIST</i>	53
<i>Data List 3: LED LIST</i>	54
<i>Data List 4: BAR GRAPH</i>	55
<i>Data List 5: LINE GRAPH</i>	56
USING THE FREEZE DATA MODE	57
<i>Freeze Data Mode for Non-OBD II-Equipped Vehicles</i>	57
<i>Freeze Data Mode for OBD II-Equipped Vehicles</i>	59
USING THE SNAPSHOT MODE	60
<i>Snapshot 1: ANY CODE</i>	61
<i>Snapshot 2: MANUAL TRIGGER</i>	63
<i>Snapshot 3: TRIGGER POINT</i>	65
<i>Snapshot 4: EVENT REPLAY</i>	67
<i>Snapshot 5: EVENT RECORDING</i>	68
USING THE CLEAR (DTCs AND DATA) MODE	69
<i>Clear 1: DTC/DATA CLEAR</i>	70
<i>Clear 2: ECM RESET</i>	71
USING THE FUNCTION TEST MODE	72
USING THE MISC. TEST MODE	74
<i>Vehicles Equipped with CVT</i>	74
<i>Passport and SLX Vehicles</i>	78
USING THE INSPECTION MODE	87
USING THE SETUP MODE	89
<i>A. MTS 3100 KEY FUNCTIONS</i>	107
<i>B. USING A PRINTER</i>	109
PRINTING DATA	110
<i>C. GLOSSARY AND ABBREVIATIONS</i>	112
<i>INDEX</i>	115

1. DESCRIPTION OF PROGRAM CARD AND CARTRIDGE USE

The MTS 3100 Honda/Acura OEM Application is used with the MTS 3100 tester to diagnose and troubleshoot problems in vehicle systems such as the PGMFI Engine Control Module (ECM), Transmission Control Module (TCM), Automatic Transmission (A/T), and On Board Diagnostics Level II (OBD II) systems.

The initial sections of this manual describe how a program card or cartridge works with the MTS 3100 tester. Specific operating instructions for using the tester and program card or cartridge to diagnose the individual systems are included in *Using the Test Modes and Functions*.

The MTS 3100 and the program card are designed to be easy to use. However, to familiarize yourself with all of the diagnostic features that the tester and program card provide, you should read through the MTS 3100 Operator's Manual and this manual to get a feel for the operation of the tester.

In this manual, keys on the tester keyboard are indicated by showing them in a “button” font (for example, **8**, *****, **#**, **ENTER**, and **EXIT**).

When two keys are shown together, hold down the first key while pressing the second key. For example, if you see **#EXIT**, it means to press and hold the **#** key and then press the **EXIT** key.

NOTE



DISCLAIMER

The MTS 3100 and its software application programs are designed for use by trained service personnel only. They have been developed for the sole purpose of diagnosing and repairing automotive electronic systems. Every attempt has been made to provide complete and accurate technical information based on factory service information at the time of publication. However, the right is reserved to make changes at any time without notice.

The MTS 3100 can be operated with an application program card installed, with a TECH 1 application cartridge installed, or with both a program card and a TECH 1 application cartridge installed.

USING AN APPLICATION PROGRAM CARD

When a program card is installed and the MTS 3100 is connected to a vehicle Data Link Connector (DLC), the various diagnostic test modes are available. For some troubleshooting procedures, the MTS 3100 displays special instructions on the screen.

USING AN APPLICATION CARTRIDGE

Many of the cartridges designed for use with TECH 1 testers are fully compatible with the MTS 3100. The TECH 1 application cartridges provide Data List, Diagnostic Trouble Code display, Snapshot, and Miscellaneous Test modes for most US vehicles as well as many vehicles manufactured in Europe and Asia.

When used alone in the MTS 3100, TECH 1 application cartridges operate in the normal TECH 1 display mode: 16 characters on each of four lines are displayed in a box near the top of the screen.

USING THE HELP KEY

Use the **HELP** key to get more information about how to operate the tester or about the display currently shown on the tester. The HELP feature saves time by reducing the need to refer to the operator's manual for basic tester operation.

Press the **HELP** key to display a description of the key functions for the current test mode. The last HELP screen for the test mode shows the special functions available.

Press ***HELP** to display a description of the DTC that is highlighted, a description of the parameter highlighted in a data display mode, or other information for the current mode. The ***HELP** function is not available for all operating modes.

After reading either type of HELP display, return to the previous screen display by pressing **EXIT**.

```

KEY HELP
↑/↓: Move marker up/down
*↑/*↓: Page up/down list
1: Go to All Data List
2: Go to Custom List
3: Go to LED List
4: Go to Bar Graph
5: Go to Line Graph
9: Chg character size
0: Turn marker on/off
EXIT: Return to menu
SEND: Print Data List
*HELP: Display specs. for
      marked parameter
#EXIT: Turn tester OFF

```

WHEN **HELP** IS PRESSED

```

ENGINE SPD.....0RPM
VSS.....0km/h
ECT SENSOR.....119°C
IAT SENSOR.....119°C
MAP SENSOR....177kPa
BARO S.....-4kPa
TP SENSOR.....-9.5°
O2S.....0.00V
O2 FB COND.....OPEN
HO2S HEATER.....OFF
BATTERY.....16.2V
ALTERNATOR.....0%

```

DATA LIST DISPLAY

```

PARAMETER SPECIFICATION

ECT SENSOR:
Engine Coolant
Temperature (ECT)
(C) (F) (V)

OPERATING RANGE (IDLE)
70°C/158°F - 100°C/212°F
1.02V - 0.47V

Possible Variance:
±8°C/14°F (at 100°C/212°F)
±0.10V (at 0.47V)

```

WHEN ***HELP** ARE PRESSEI

2. OPERATING PRECAUTIONS

In this manual, the word **WARNING** is used to alert you to potentially hazardous conditions or actions that can cause you to be killed or seriously hurt if you don't follow instructions.

The word **CAUTION** alerts you to conditions or actions that can cause you to be hurt if you don't follow instructions.

The word **NOTE** alerts you to conditions or actions that can cause damage to products, accessories, parts, other property, or the environment.

WARNING!



When performing any checks with the engine running in an enclosed space such as a garage, be sure you have proper ventilation. Never inhale exhaust gases; they contain carbon monoxide, a colorless, odorless, extremely dangerous gas which can cause unconsciousness or death.

NOTE



To prevent damage to the tester or the program card or cartridge, do not remove or install a program card or cartridge while power is applied to the tester.

To change or install a program card or cartridge, do the following:

1. Turn the ignition switch off.
2. Turn the tester off by pressing the **#** **EXIT** keys.
3. Change or install the program card or cartridge.
4. Reconnect the DLC cable to the vehicle if it is not connected.
5. Turn the ignition switch to on.
6. Press **ON** to turn on the tester.

When the instructions tell you to turn the ignition switch to on, turn the key to the “ON” position but do not crank or start the engine. If the instructions say “Start the engine,” go ahead and start the engine.

Take the following precautions when you perform troubleshooting or check sensors using the tester:

- Be careful when you are working around moving parts such as the radiator fan or alternator. Pay special attention to the radiator fan, which starts rotating automatically when the engine coolant reaches a certain temperature.
- Make sure to follow the procedure below when performing the road test for the vehicle speed sensor or the automatic transmission. (Spinning the wheels with the vehicle stationary.)
 - With a 4WD vehicle, jack up both ends of the vehicle, and support it with safety stands.
 - With a 2WD vehicle, apply the parking brake, block the non-drive wheels, jack up the drive end of the vehicle, and support it with safety stands.
- Always be aware of the possibility of a fire if a circuit is shorted when the probe is applied to a circuit (especially the power system).
- Be aware of hot surfaces when you are working around the exhaust manifold, the radiator, and the engine.

3. IDENTIFYING THE VEHICLE AND SELECTING A TEST SYSTEM

When you power up the MTS 3100, you confirm (and/or enter) information about the software on the program card and about the vehicle being tested. The information to be confirmed includes the Vehicle Type, and Engine Control Module (ECM), identification information specific to the vehicle being tested, such as the model, engine type, transmission type, Vehicle Identification Number (VIN), and odometer reading.

The program card is able to recognize “carryover” vehicle models that were released after the program card was released. To perform Limited Mode testing on carryover vehicles, choose OTHER when the VIN information displayed on the tester does not match the VIN of the vehicle being tested.

If you are unsure whether the vehicle under test is supported by the current version of Honda/Acura software, press ***HELP** from the Honda/Acura software title screen. Select 2: APPLY VEHICLES from the HELP SELECT menu to view supported Honda/Acura vehicles.

NOTES



- The displays shown in this section are samples and may vary slightly from those you see, depending on the vehicle you are testing.
- The Limited Mode cannot be used for full model change or new model vehicles.