ISUZU SYSTEMS OEM Application

Operator's Manual



Vetronix Corporation

Copyright © 2002 Manual P/N 08002614

Tech 1 $^{(\!R)}$, **Tech 1A** $^{(\!R)}$, and **Mastertech** $^{(\!R)}$ are registered trademarks of Vetronix Corporation Printed in USA 11/02

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.

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 and block the drive wheels before performing any checks or repairs on the vehicle.

DISCLAIMER

The TECH 1 and Mastertech 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 available at the time of publication. However, the right is reserved to make changes at any time without notice.

FCC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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 **Mastertech** 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.

Table of Contents

1.	ISUZU SYSTEMS OEM APPLICATION DESCRIPTION
	DESCRIPTION
	MANUAL ORGANIZATION
2.	OPERATING PRECAUTIONS
	FIELD SERVICE MODE OPERATION
	AIR SOLENOID OPERATION
	SPECIAL OR 10K MODE OPERATION
	ACTUATOR TEST
	REMOVING OR CHANGING APPLICATION CARTRIDGES CONTAINING SNAPSHOT DATA
<i>3</i> .	VEHICLE COVERAGE
	VEHICLE COVERAGE
	1987 Engine Types
	1988 Engine Types
	1989 Engine Types
	1990 Engine Types
	1991 Engine Types
	1992 Engine Types
	1994 Engine Types
	1995 Engine Types
	1996 Engine Types
	1997 Engine Types
	1998 Engine Types
	1999 Engine Types
	SRS/SIR Systems (1990-97)
	Transmission Systems
	AntiLock Brake Systems
<i>4</i> .	GETTING STARTED
	SETTING UP THE TESTER
	ECM/PCM AND SRS/SIR ADAPTERS REQUIRED
	TRANSMISSION/ABS ADAPTERS REQUIRED
	DLC LOCATION
	SELECTING THE MODEL YEAR, SYSTEM, AND VEHICLE

	SELECTING A 1987-95 ECM/SRS BY VIN CODE
	SELECTING A 1987-95 ECM/SRS BY THE FUEL SYSTEM
	REVIEW STORED SNAPSHOT DATA
	ISUZU PART NUMBER AND TROUBLE CODE/DTC DISPLAYS
<i>5</i> .	TEST MODES: ECM, PCM, SRS, SIR, AND OASIS SYSTEMS
	SELECTING TEST MODES
	CELECTING CUID MODES
	SELECTING SUB MODES TECH 1/1A AND MASTERTECH-ECM COMMUNICATIONS STATUS DISPLAYS
	ECM/PCM/SRS/SIR SYSTEMS
	Mode F0: Data List [ECM/PCM/SRS/SIR]
	Viewing Data Parameters
	Road Test Mode Operation.
	Create Your Own Data Pairs
	Mode F1: Field Service [ECM]
	Mode F1: Capture Info. [PCM]
	Mode F2: Trouble Code/DTC [ECM/SRS/SIR]
	Mode F2: DTC [PCM]
	Mode F3: Snapshot [ECM/PCM]
	Trigger Point
	Trigger Condition
	Fast Data Mode.
	Mode F4: Clear Codes/Clear DTC [ECM/SRS/SIR]
	Mode F4: Misc. Tests [ECM/PCM] Submode F0: Output Tests [ECM/PCM]
	Submode F0: Output Tests [ECM/FCM] Submode F0: Air Solenoid [ECM]
	Submode F1: Backup Fuel/Backup Spark [ECM]
	Submode F1: Clear Info [PCM]
	Submode F2: Clear Codes/DTC [ECM]
	Submode F2: IAC System [PCM]
	Submode F0: RPM Control (1996-1997 Systems)
	Submode F3: PRM Control (1987-1995 Systems) [ECM].
	Submode F3: Fuel System [PCM]
	Submode F3: Fuel Gauge
	Submode F4: Injector Balance [PCM]
	Submode F4: BLM Reset (1987-1992 Systems) [ECM]
	Submode F5: Transmission (1993 Systems) [ECM]
	Mode F6: System Info [PCM]
	Submode F0: MIL Status
	Submode F1: System Status
	Mode F7: ID Info [PCM]
	Submode F0: Broadcast
	OASIS SYSTEMS
	Mode F0: Data List
	Create Your Own Data Pairs.
	Mode F2: DTC
	Trigger Condition
	Mode F3: Snapshot
	Trigger Point
	Replay Data.

	Printing Captured Data
	Mode F4: Freeze Data
	Mode F5: Clear Mode
	Submode F0: Clear Codes/Freeze Data
	Submode F1: ECM Reset.
	Mode F6: Inspection
	Idle Speed Adjust
ó.	TEST MODES: TRANSMISSION AND ABS SYSTEMS
	Mode F0: Data List
	Mode F1: Function Test
	Mode F1: DTC History (ABS VI)
	Mode F2: Trouble Code/DTC
	Mode F3: Snapshot
	Mode F4: Clear Codes/DTC
	Mode F4: Misc. Tests (4WAL)
	Mode F4: Misc. Tests (ABS VI)
	F0: Manual Control Test.
	F2: Hydraulic Control Test
	F5: Gear Tension Test.
	F6: Relay Test.
	F7: Voltage Load
	F8: Lamp Test.
	F9: ABS Version.
	Mode F5: Motor Rehome (ABS VI)
	Mode F5: Actuator Test
	Basic Output Tests
	Automatic Tests User Output Control Test
	Mode F6: Wheel Sensors
	Mode F8: ECU Control
⁷ .	FINISHING UP
4.	IF YOU'RE HAVING A PROBLEM
	BLANK SCREEN
	SCREEN DISPLAYS SOLID BARS
	MASTER CARTRIDGE MISSING OR MALFUNCTIONING
	WRONG DISPLAY AFTER POWER IS APPLIED
	WRONG ECM SELECTED
	DATA NOT BEING RECEIVED
	DADAMETERS ELASH ON/OFF

<i>C</i> .	GLOSSARY	135
<i>B</i> .	HOW TO USE THE DIAG. SELECT BOX	137

1. ISUZU SYSTEMS OEM APPLICATION DESCRIPTION

DESCRIPTION

The Isuzu 87-99 Systems Application is used with the TECH 1, TECH 1 Series A (TECH 1A), or Mastertech to diagnose and troubleshoot problems in the following systems:

Engine Control Module (ECM)
Transmission Control Module (TCM)
Powertrain Control Module (PCM)
Supplemental Inflatable Restraint System (SRS)/(SIR)
Antilock Brake System (ABS)

MODEL	YEAR	ENGINE
Amigo	1988-93	2.3L Carbureted
Amigo	1988-94	2.6L PFI
Hombre	1996	2.2L MFI
I-Mark	1987-89	1.5L Carbureted
I-Mark	1987-92	1.5L PFI
I-Mark	1988-91	1.6L PFI DOHC
Impulse	1988-89	2.0L PFI
Impulse	1988-89	2.3L PFI
Impulse	1990-93	1.6L PFI Turbo
Impulse	1992-93	1.8L PFI DOHC
Oasis	1996-97	2.2L PGM-FI
Oasis	1998-99	2.3L PGM-FI
Pickup	1988-93	2.3L Carbureted

MODEL	YEAR	ENGINE
Pickup	1988-94	2.6L PFI
Pickup	1995	2.6L MFI
Pickup	1993	5.7L TBI (4L80E Transmission)
Pickup (TF Truck)	1993-95	3.1L TBI
Pickup (TF Truck)	1994-95	2.3L MFI
Rodeo	1991-92	3.1L TBI
Rodeo	1991-94	2.6L PFI
Rodeo	1993-97	3.2L PFI SOHC
Stylus	1990-93	1.6L PFI SOHC
Trooper	1988-94	2.6L PFI
Trooper	1989-91	2.8L TBI
Trooper	1991-92	3.1L TBI
Trooper	1992-95	3.2L PFI DOHC
Trooper	1992-97	3.2L PFI SOHC
UBS	1995-97	3.1L DIESEL
UBS	1996-97	3.2L MFI

Specific vehicles and models that can be tested for each system are listed in the tables in Chapter 3.



The 1993 4L80E transmission functions are found under the 1993 ECM/SRS system selection. This is because the vehicle uses a combined Engine and Transmission control module called a PCM. All other 90-95 transmission functions are found under the TRANS/ABS system selection.

MANUAL ORGANIZATION

This manual is divided into three main sections:

Chapter 2 through Chapter 4	Identifying the vehicle being tested and selecting a system to test.
Chapter 5	Operating instructions for testing the ECM/PCM, SIR/SRS, and Oasis systems.
Chapter 6	Operating instructions for testing the Transmission and ABS systems.