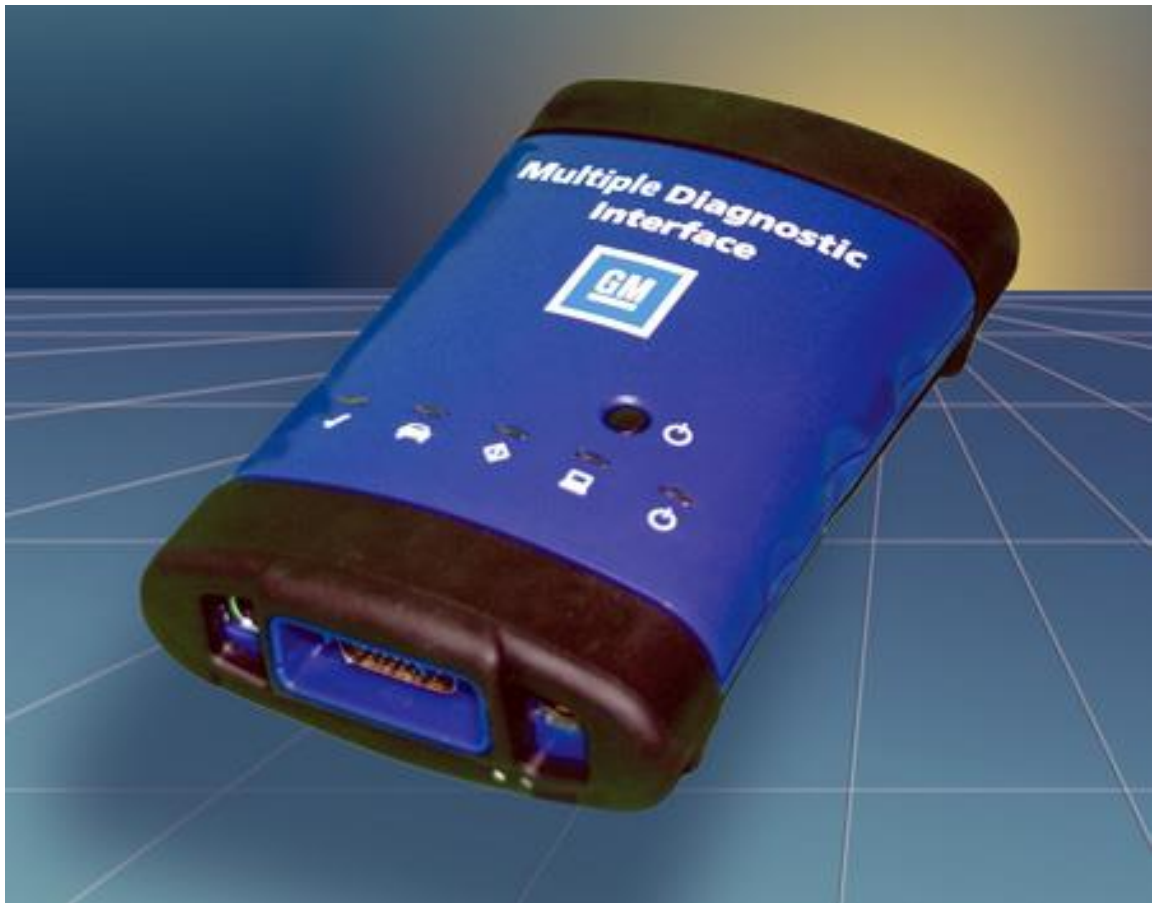


Multiple Diagnostic Interface (MDI) User Guide



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Important MDI User Guide Information

Everything contained in this manual is based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

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Foreword

MDI Use and Application

The Multiple Diagnostic Interface (MDI) and host computer applications are designed for use by trained service personnel to diagnose and repair 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.

To familiarize yourself with the Multiple Diagnostic Interface and host computer applications and their capabilities, and how to use them, please read through the User's Guides before putting the MDI to work.

The Multiple Diagnostic Interface and host computer applications provide the following capabilities:

- Data transfer and Electronic Control Unit (ECU) reprogramming
- Shop network communications (LAN and WLAN)
- Service Programming System (SPS)
- Global Diagnostic System 2 (GDS2)
- Tech2Win

Location of Vehicle ECUs and Test Connectors

See Service Information (SI) for vehicle specific information.

For the location of vehicle Electronic Control Units (ECUs) and Data Link Connectors (DLCs), refer to the Service Information for the vehicle being tested.

Customer Support Overview

The ACDelco Aftermarket Support Center is available for MDI assistance. To obtain assistance with a question or problem concerning the operation of your GM-Techline product and its attached products, contact the ACDelco Aftermarket Support Center 1-888-212-8959.

For MDI Tech Support contact Bosch Diagnostics/Vetronix 1-855-267-2483, prompt 1.

For warranty support or hardware repairs related issues contact Bosch Diagnostics/Vetronix Corp. 1-800-321-4889, prompt 7

Before Calling

Before making a call to the ACDelco Aftermarket Support Center, be sure to have the following information ready:

- Business name, address and TIS Login ID number
- Telephone number where the technician may be reached

Prepare a brief description of the problem:

- Tell when the problem occurred
- List any error codes displayed
- Tell what accessories were being used when the problem occurred, and vehicle information

Making the Call

The ACDelco Aftermarket Support Center operates from 8:00 a.m. to 8:00 p.m. (Eastern Standard Time) Monday through Saturday. 1-888-212-8959

Important PC Hardware Guidelines

ACDelco provides IT guidelines to help users have a seamless experience when using TIS2Web software applications. To avoid unnecessary compliance issues with TIS2Web, please review and adhere to the stated infrastructure guidelines at the following link:
<http://www.gmdesolutions.com/services/standards.php>

These guidelines for GM Dealers also apply to independent users, Professional Service Centers and Key Fleets using ACDelco Aftermarket subscriptions. For questions on these guidelines, contact 888-212-8959, prompt #2.

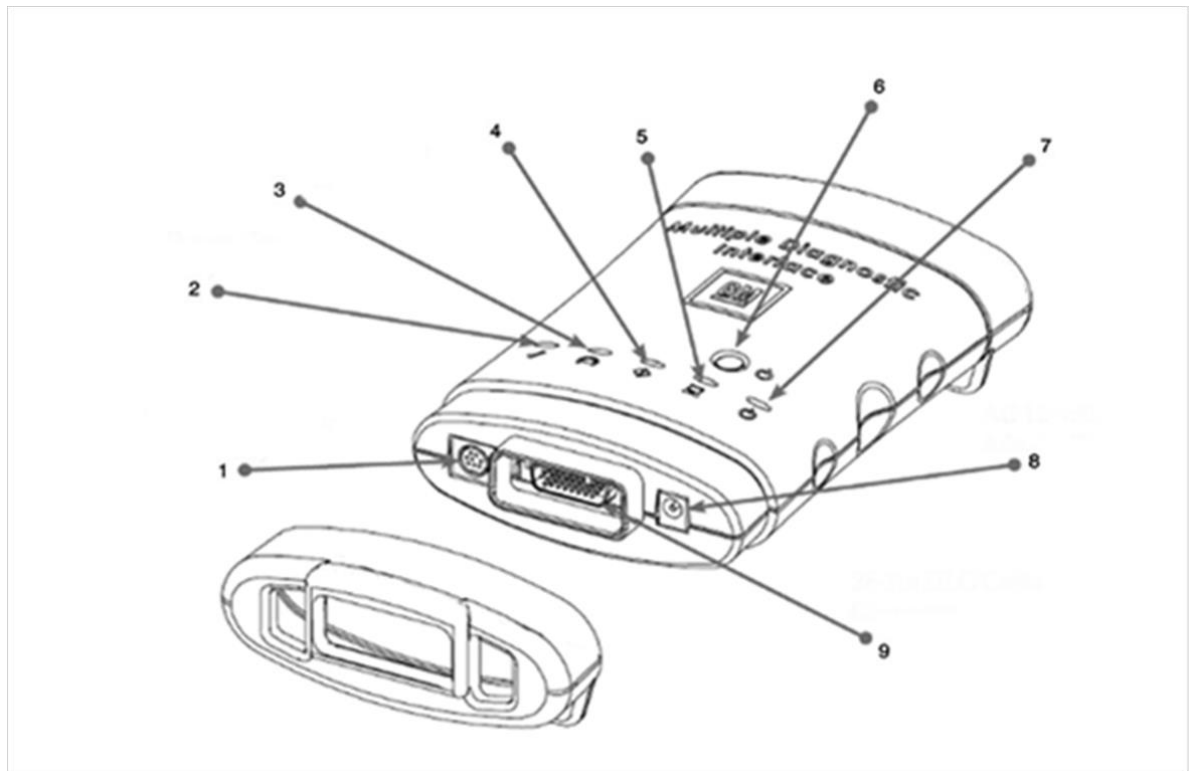
Product Description

The Multiple Diagnostic Interface

The MDI is used by professional technicians as an aid in diagnosing and repairing automotive electrical and electronic systems. The MDI is designed to connect the vehicle to a TIS2Web PC computer application which then functions through the MDI for data transfer and Electronic Control Unit (ECU) reprogramming through Service Programming System (SPS), Global Diagnostic System 2 (GDS2), and Tech2Win. See Connectors and Indicators (LEDs) on the MDI" below for the location of the connectors and indicators (LEDs) on the MDI.

Connectors and Indicators (LEDs) on the MDI

MDI Hardware Description



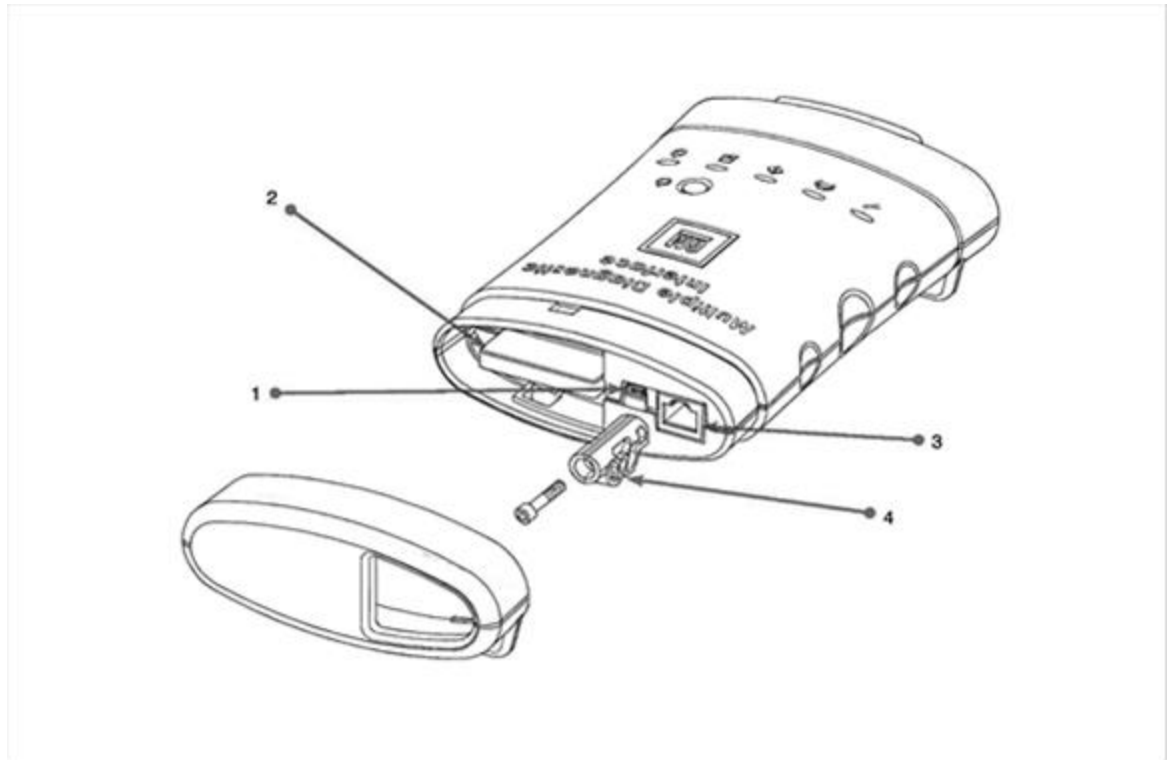
- 1) *RS-232 Connector (Future Use)*
- 2) *Future Use LED*
- 3) *Vehicle Communication Active*
- 4) *Error Detected*
- 5) *MDI Host Communication Active*
- 6) *Power Button*
- 7) *On/Off LED*
- 8) *AC 12-Volt Adapter Plug*
- 9) *26-Pin DLC Cable Connector*

Host Computer Interface

Using the PC application MDI Manager software, you configure the MDI to communicate with a host computer. The MDI is capable of communicating over a USB cable, an ethernet cable (LAN), or wireless (WLAN). See Getting Started further on in this document for more details.

PC Connections on the MDI

Direct Cable Connections



- (1) *USB Connector*
- (2) *802. 11g WLAN/Compact Flash Card*
- (3) *Ethernet Connector*
- (4) *USB Cable Keeper 3000215*

Minimum Hardware Requirements

ACDelco provides IT guidelines to help users have a seamless experience when using GMSi and TIS2Web software applications. To avoid unnecessary compliance issues with GMSi and TIS2Web, please review and adhere to the stated infrastructure guidelines.

Details on minimum system requirements can be accessed from the following site:

<http://www.gmdesolutions.com/services/standards.php> - (Use the 'view guidelines' link)

These guidelines for GM Dealers also apply to independents, Professional Service Centers and Key Fleets using ACDelco Aftermarket subscriptions. For questions on these guidelines, contact 888-212-8959, prompt #2.

Specific Applications Supported with the MDI

The MDI functions with a PC computer application (PC program) for testing specific vehicles and systems. The programs are upgraded periodically to include new vehicles, model years, systems, and functions.

The MDI supports the following:

- Pass-thru programming of the flash calibration files that are stored in a vehicle onboard controller (e.g. PCM, ABS, VTD). Refer to The Service Programming System (SPS) Users Guide.
- Global Diagnostics System 2 software package for diagnosis and repair of vehicle systems. Refer to the Global Diagnostics System 2 Users Guide.
- Tech2Win diagnostic and programming system.

To be present on the host computer, the MDI requires GM MDI Manager software and previously noted applications.

Using the MDI with Service Programming System (SPS)

The Service Programming System (SPS) updates the flash calibration files that are stored in a vehicle onboard controller (e.g. PCM, ABS, VTD). The calibration file custom-tailors a module to a certain vehicle. When troubleshooting a drivability condition, diagnosis may call for reprogramming the controller with newer calibration information to correct a customer concern.

The SPS application is part of the Techline Information System (TIS) system. To program an ECU, the SPS application must communicate with the vehicle control modules using the MDI or proper (J2534) programming interface tool.

SPS provides the following capabilities in multiple languages:

- Selecting the Correct Calibrations
- Performing Pass-Thru Programming
- Retrieval of lost SPS Programming Warranty Claim Codes
- Setup and Configuration of ECU's
- Sequential Programming

For a detailed explanation of the SPS application, see the Service Programming System (SPS) section of the TIS User Guide.

Using the MDI with Global Diagnostic System 2 (GDS2)

The Global Diagnostic System 2 is used in conjunction with the MDI to provide trained personnel the ability to diagnose and repair automotive electrical and mechanical systems. GDS2 provides comprehensive diagnostic packages custom-tailored to specific General Motors vehicles.

GDS2 provides the following capabilities in multiple languages:

- Read codes, code status, Freeze Frame data and Clear Codes
- Read VIN, ECU part numbers and software numbers
- Record, store and replay Stored data
- Control and monitor Output Control functions
- Configure and Reset functions
- Download vehicle RPO data
- Record or display history of the previous vehicle diagnostic sessions

Service Programming System (SPS) is not supported in GDS2. For SPS with the MDI, see the TIS Users Guide.

For a detailed explanation, see the Global Diagnostic System 2 (GDS2) Users Guide.

Using the MDI with the Tech2Win Application

The Tech2Win software download is available through TIS on the SWDL tab. It is used in conjunction with the MDI to provide Tech2 simulation on a PC.

Most of the diagnostic capabilities of the Tech2 are provided without the programming feature and PCMCIA cards. Service Programming System (SPS) is not supported in Tech2Win. For SPS with the MDI see the TIS Users Guide.

Additionally, Tech2Win provides Tech2 diagnostic capabilities in multiple languages.

Getting Started

The MDI and Associated Hardware

The MDI will come with an MDI Kit that may contain the necessary equipment to connect and power up your MDI. See the Kit for set up instructions.

Power Source and Battery Backed Operation

The MDI is intended to be powered from the vehicle battery via the DLC cable. It may also be powered using the AC 12-volt adaptor.

There is an alternative four AAA battery supply in the MDI. The batteries are not intended to power the MDI for constant use and only provide back-up power for momentary power interruptions like those that can occur during engine cranking.

The AAA battery installation door is located on the back of the MDI. To replace or perform a periodic check, remove the boot, turn over the MDI, slide open and remove the battery door. Install four AAA batteries if required.

Power on Self Test

When you first apply power to the MDI, the Power On Self Test (POST) will run and complete with an audio beep.

There are five LED lights on the front of your MDI. See the Product Description in this document for further definition and description.

The audio beep may indicate for the user when the POST is complete after initially powering on the MDI and it may also sound if an error is encountered.

Installing the MDI Manager Software

The MDI Manager software is a PC application that provides:

- Configuration of the MDI to host PC configurations
- MDI software updates

The MDI Manager software sets each MDI's J2534 identity and provides control over the MDIs located on your network. Any PC application that directly communicates with the vehicle must have the MDI Manager software installed.

The MDI has software on the unit itself, but you must install the MDI Manager software from the TIS application in TIS2Web/Global TIS to utilize the MDI as intended.

After signing into TIS and upon selection of Service Programming (SPS), Global Diagnostic Systems 2 (GDS2), or Tech2Win, TIS will automatically prompt an assessment of current software applications and initiate an MDI software installation process if required. If an update is required the user will be prompted to update the MDI. When the process is complete, TIS will notify the user if the current software packages are compatible, or notify the user of errors. Users may be directed in regards to error correction solutions.

TIS Feedback Selection for MDI

To provide feedback on the MDI, enter TIS and select Feedback from the TIS Main Menu.

Select the Feedback selection from the top of the screen in the Central Tool bar next to the Help selection. MDI feedback can be reported using the TIS Feedback selection.

Your opinion, concerns, and experiences with the MDI when used with the TIS software application, GDS2, and Tech2Win are very important to General Motors. The information you provide may be used to help improve our products and your experience with our software applications. The TIS Feedback selection provides direct Email access to General Motors for the following TIS selection areas:

- Online Questionnaire
- Software Download
- Standard Information

Contact information is also included as part of the email that is sent to General Motors. Contact information for the Online Questionnaire and Software Download areas is optional. Certain fields must be completed for Contact Information, Standard Information, Service Bulletins, and Wiring Diagrams. General Motors requires this information so they can contact you later for specific information regarding your inquiry. We want to hear from you. Don't be afraid to use this important option.