## Mitchell Diagnostics MD-350 Quick Start Guide



- 1. Vehicle Identification Window
- 2. Camera Front facing camera is 5MP.
- 3. Microphone Front facing microphone.
- 4. Ambient Light Sensor
- 5. Main Screen Functions 6. Android Applications
- Button
- 7. Camera Button

- 8. Screen Shot Button
- 9. VCI Connection Manager **Button**
- 10. Recent apps button
- **11. Power Button**
- 12. Home Button
- 13. Back Button
- 14. Speaker
- 15. Power port
- 16. HDMI Port
- **17. Docking Station Port**

- 18. USB Type "A" port
- 19. Audio port
- 20. Ethernet Connector
- 21. VCI Port
- 22. Mini USB
- 23. Speaker
- 24. Microphone
  - Rear Facing Microphone.
- 25. Camera
  - Rear Facing Camera is 5MP.
- 26. Light

## MD-350 Quick Start Guide

## **Safety Precautions**

BEFORE OPERATING THIS TOOL, ALL OPERATORS SHOULD READ AND UNDERSTAND THIS QUICK START GUIDE AND FOLLOW ALL SAFETY WARNINGS AND INSTRUCTIONS.

KEEP THESE INSTRUCTIONS WITH THE TOOL FOR FUTURE REFERENCE. IF YOU HAVE ANY QUESTIONS, CONTACT YOUR OTC REPRESENTATIVE OR DISTRIBUTOR.

### **DANGER**:

When an engine is operating, keep the service area well ventilated or attach a building exhaust removal system to the engine exhaust system. Engines produce carbon monoxide, an odorless, poisonous gas that causes slower reaction time and can lead to death or serious personal injury.

### **WARNINGS**:

When working with hydraulic or fuel lines, be careful that liquids under pressure do not escape and create a dangerous condition. Use adequate ventilation and make sure there are no sparks or possibility of sparks that may ignite any vapor.

Wear an American National Standards Institute (ANSI) Z87.1 approved eye shield when testing or repairing vehicles.

Objects propelled by whirling engine components or pressurized liquids escaping may cause personal injury.

Set the parking brake and block the wheels before testing or repairing a vehicle. It is especially important to block the wheels on front-wheel drive vehicles because the parking brake does not hold the drive wheels.

Do not drive the vehicle and operate the software at the same time. Maintain adequate clearance around moving components or belts during testing.

Moving components and belts can catch loose clothing, body parts, or test equipment and cause serious personal injury or tool damage. Automotive batteries contain sulfuric acid and produce explosive gases that can result in serious injury ignition of gases, keep lit cigarettes, sparks, flames, and other ignition sources away from the battery at all times.

Refer to the service manual for the vehicle being serviced. Adhere to all diagnostic procedures and precautions. Failure to do so could result in personal injury or otherwise unneeded repairs.

Use only specially designed replacement parts (brake hoses and lines) for ABS equipped vehicles.

After bleeding the brake system, check the brake pedal for excessive travel or a "spongy" feel. Bleed again if either condition is present. When installing transmitting devices (Citizen Band radio, telephone, etc) on ABS-equipped vehicles, do not locate the antenna near the ABS control unit or any other control unit.

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 in a residential installation. This equipment generates and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. To reduce risk of injury, charge only Bosch Automotive Service Solutions, Inc. supplied rechargeable batteries for the MD-350 product with the supplied charger. Other types of batteries may burst causing injury to persons and property damage.

Use of an attachment not recommended or sold by the battery charger manufacturer may result in fire, electric hock, or personal injury. Do not operate the tool with a damaged cord or connector. Replace damaged cords and connectors immediately.

Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way. Take the charger to a qualified service person.

Do not disassemble the charger. Take the charger to a qualified service person if service or repair is necessary. Incorrect reassembly may result in electric shock or fire. Unplug charger before attempting any maintenance or cleaning. Turning off controls will not reduce this risk. To prevent possible hearing damage, avoid using the tool at high volume levels for long periods.

Do not expose tool or charger to rain, moisture, or snow. Verify that cords are located where they will not be stepped on, tripped over, or otherwise become a safety hazard or subjected to damage or stress.

Use only batteries that are approved for use with this tool. Use of other types may increase the risk of fire or explosion.

Do not carry a battery in your pocket, purse, or other container where metal objects (such as car keys or paper clips) could short-circuit the battery terminals. The resulting excessive current flow can cause extremely high temperatures and may result in damage to the battery pack or cause fire or burns.

The battery poses a burn hazard if you handle it improperly. Do not disassemble it. Handle a damaged or leaking battery with extreme care. If the battery is damaged, electrolyte may leak from the cells and may cause personal injury.

Keep the battery away from children.

Do not store or leave your tool or battery near a heat source such as a radiator, fireplace, stove, electric heater, or other heat-generating appliance or otherwise expose it to temperatures in excess of 60°C (140°F). When heated to excessive temperatures, battery cells could explode or vent, causing personal injury or risk of fire. Do not dispose of your tool's battery in a fire or with normal household waste. Battery cells may explode. Discard a used battery according to the manufacturer's instructions or contact your local waste disposal agency for disposal instructions. Dispose of a spent or damaged battery promptly.

#### CAUTION:

To avoid damage or generation of false data, make sure the vehicle battery is fully charged and the connection to the vehicle Data Link Connector (DLC) is clean and secure.

Do not place the tool on the distributor of a vehicle. Strong electromagnetic interference can damage the tool. Never disconnect or reconnect any electrical connector while the ignition is on. Powertrain Control Module (PCM) damage may result.

## Setup

1. Docking Station.





- 1. Handset
- 2. Docking Station
- 3. LED

The Docking Station can be used to store the Handset when not in use. The Docking station can also charge the handset.

There is a storage bin at the rear of the Docking Station to store the VCI/OBD-II Cable when the handset is charging.

The LED state shall be as follows:

- Off indicates no power connected
- Green flashing indicates charging handset
- Green steady indicates charged handset

Note: LED shall flash momentarily even if the handset is completely charged when the handset is first attached to the charging station to indicate contact has been made.

## 2. Battery Charging.

Connect the handset to AC power and fully charge the battery.

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1. Handset

### 2. AC Power cord

When the handset is turned on, the level of battery charge is indicated in the upper right corner of the screen.

NOTE: The tool can be used while charging. The battery can also be charged using the 18 volt power supply provided with the kit.

### **Battery Life Tips**

The Handset is an Android based touch screen tablet. The battery life icon shows charge level. The scan tool lets you know how much battery life is left by viewing the icon located at the top right of the home screen. Like all Android devices, there are tips to help extend or maximize battery life.

When not actively being used, the screen will timeout and the scan tool will go into the hibernation. The user can set the length of delay between the last screen touch and automatic screen timeout (dim and lock). From the Home screen, touch the Android App button -Settings - Display.

Select Screen timeout, then select the length of time from the last screen touch and automatic screen timeout.

To use again, press the power button to wake the tool up. This will allow maximum run time, while not limiting productivity.

When the tool is powered up, even if it is not being actively used, Wi-Fi and Bluetooth radios as well as all other necessary hardware are still being powered. Battery life is comparable to similar devices when in this state.

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Note: It is recommended to keep the scan tool plugged into power supply when not being used.

Software Updates: Periodically, updates will become available and the user will be notified through a message on the screen. To receive updates automatically, connect to Wi-Fi and leave scan tool on overnight.

Note: Scan Tool will download updates automatically when connected to the internet. When download is complete, the user will be informed with a pop up screen. To install an update, the scan tool must be connected to the AC power adapter, over 50% battery life and not connected to a vehicles DLC.

3. Press the power button to turn on the handset.



### **Power Button Functions**

The power button has four functions

- a. ON: Press the power button to turn the handset on.
- b. OFF: Press and release the power button. A pop up window will appear to shut down the handset.
- c. ON: If the screen times out or is in standby mode, press and release the power button to wake up the handset. Turn ON: With tool off, press to turn ON
- d. OFF: Press the power button and hold for 5 seconds to turn the handset off completely (not recommended).

## 4. Select a Language



5. Register the tool, begin the trial period, or run the tool in demo mode.

You've got the rig	ght tool!	
Register my Device Now	Quick Setup	End User License Agreement
Register my Device Later	1) Read & agree to the EULA.	Software Product License Agreement Copyright (c) 2014-2015, Bosch Automotive Service Solutions Inc. Al Rights Reserved
Demo Mode	2) Setup Wi-Fi.	SOFTWARE PRODUCT LICENSE AGREEMENT
	3) Activate your warranty	IMPORTANT: Do not continue until you have read this Software Product Learnes Agreement (Agreement). By clicking the I Accept button (or authoring any other person to do so), you accept this Agreement and are bound by its terms. If you are not sure that you are package to a principal in your fim before proceeding. This Agreement is a legally binding document setting forth the marner by which you and you are bound by a forth and the soft and before software and any associated media, printed materials and electronic means and conditions of the Agreement before using this Software Product. Use of this Software product indicates your acceptance of the following terms and conditions:
		<ol> <li>OWNERSHIP. The Software Product is licensed (not sold) to you.</li> <li>The Software Product shall remain the property of Bosch. Bosch</li> </ol>
		I Agree

Note: Wi-Fi Must be ON. If Wi-Fi is OFF slide the Wi-Fi switch to the ON position and follow the prompts on the screen.

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6. Connect the VCI to the vehicle.



- 1. OBDII/DLC Cable
- 2. DLC
- 3. VCI

## 7. Connect the handset to the VCI. Pairing

VCI Connection Manager Icon Definitions				
×	No VCI is paired with the handset.			
	VCI is paired on the hardware level, but software check had failed. VCI cannot be used without software update.			
	VCI is connected via Wi-Fi. Software check is successful, VCI is ready for use, but Wi-Fi signal is degraded.			
*	VCI is connected via USB. Software check is successful, VCI is ready for use.			
	VCI is connected via Wi-Fi. Software check is successful, VCI is ready for use.			

The VCI is paired to the handset during manufacturing and should be paired out of the box.

- a. Connect the VCI to the vehicle DLC.
- b. At this point VCI Connection Manager icon should display "Connected via Wi-Fi".
- c. If VCI Connection Manager icon shows "No connection"s, select the VCI Connection Manager icon.

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- d. Once VCI Connection Manager icon is selected, VCI Connection Manager dialog is displayed, listing discovered VCIs.
- e. Select "Connect" next to VCI in the list to pair with it.

Once VCI Connection Manager icon changes to "Connected via Wi-Fi", the tool is ready to use.

The handset is now paired to a VCI. To use a different VCI in the future, repeat the steps for manually pairing the VCI.

Select "Connect" next to desired VCI. VCI Connection Manager dialog will refresh to show successful connection.

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### **Cable connection**

Connect the VCI OBDII/DLC cable into the vehicle. If wired connection to VCI is desired, then use USB cable provided in the kit, plug the appropriate end (B) of the cable into the VCI, then the opposite end into a USB VCI port on the handset. VCI Connection Manger will switch icons to the USB icon.



#### **USB** Cable

- 1. OBDII/DLC Cable
- 2. DLC Connector
- 3. USB Cable
- 4. Handset



- 1. Power port (used when necessary)
- 2. DLC/OBDII cable port
- 3. Power Indicates the VCI has received power.
- 4. PC Connection Indicates the VCI is communicating with the PC.
- 5. Vehicle Connection Indicates the VCI is communicating with vehicle by
- 6. wireless Wi-Fi or USB

USB "B" Port

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## 8. Connect to the internet.

a. Enable Wi-Fi and select Next

tool!	
Setup Wi-Fi Add Wi-Fi Network	
This is needed for networks that do not broadcast their SSID	
	Setup Wi-Fi Add Wi-Fi Network This is needed for networks that do not broadcast their SSID

- b. Select a network and select Next
- c. If a Network password is required the Android Wi-Fi screen will be displayed. Follow the prompts on the screen.
- d. If an internet connection could not be established, follow the prompts on the screen and try again.

## 9. How to Power Off MD-350



- a. Press and release the power button.
- b. Select OK. The tool will now shutdown.

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Note: When switching vehicles, it is best to return to the home screen before disconnecting the VCI from the vehicle to avoid communication errors.

## **Selecting Vehicle**

Allows the user to enter a new vehicle or view Recent Vehicles previously selected. Select the "Select Vehicle" button then enter a vehicle one of four ways:

- 1. Select AutoID to start to automatically detect the vehicle.
- 2. Select Manual Selection manually enter information.
  - a. Year
  - b. Make
  - c. Model
  - d. Engine
- 3. Select Recent Vehicles to select from a list of previously selected vehicles.
- 4. Enter VIN in search by VIN field.



## **Diagnostic Functions**

After selecting a vehicle the user will be able to begin using diagnostic functions on the vehicle.



### 1. Select Vehicle button

Short cut to the select vehicle screen

#### 2. Home Button

Short cut to the Main Menu

### 3. Read DTCs All Systems

The Read DTCs All Systems will scan all available controllers on the selected vehicle.

### 4. Read DTCs Select Systems

The Read DTCs Select Systems will scan selected controller on the vehicle.

#### 5. Data Stream

The data stream function shows live sensor and solenoid data streaming from the vehicle ECU (electronic control unit).

#### 6. Special Tests

Depending on the vehicle and controller selected, special tests are available.

### 7. Diagnostic Information

Diagnostic Information provides diagnostic, repair, and reset information for the selected vehicle.

### 8. Automatic System Test

The Automated System Test (AST) will scan all available controllers on the selected vehicle for Modes 1-7.

#### 9. Maintenance Tests

Maintenance Tests provide a way for specific systems to be recalibrated or reset after service.

#### 10. Enhanced OBDII

Provides limited engine control and monitors the diagnostic control network of the vehicle.

#### 11. Saved Diagnostic Data

The Saved Diagnostic Data functions allows the capability to recall previously run tests and Data Stream Records.

#### 12. System Wiring Diagrams

Provides OEM specific, Full color, Full system diagrams.

#### 13. Browser

An internet browser window is available for direct internet access.

#### 14. Settings

Settings allow the user to make adjustments to the tool.

## Features

### AutoDetect®

The new user interface utilizes graphic "badges" to illustrate when critical information is found. AutoDetect<sup>®</sup> automatically detects vehicle-specific solutions and graphically alerts the user of on-tool or web-based repair information found. To use the Code To Fix<sup>®</sup> feature, press the Diagnostic Trouble Code to launch the DTC Info screen for access to exclusive experiencedbased fixes and repair information for that specific vehicle and DTC.

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Crankshaft Position (CKP) -Camshaft Position (CMP) Correlation			DTC Sta	atus	DTC info
Mass Air Flow Sensor Performance	Failure	Record	DTC St	atus	DTC info
Mass Air Flow Sensor Circuit Low Frequency			DTC St	atus	DTC info
Crankshaft Position (CKP) -Camshaft Position (CMP) Correlation			DTC Sta	atus	DTC info
Mass Air Flow Sensor Performance	Failure	Record	DTC Sta	atus	DTC info
Mass Air Flow Sensor Circuit Low Frequency			DTC St	atus	DTC info
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B1213   Less Than Two	Keys Programmed To Passive	Anti-Theft System		Menu
© 2008 Ford F-150 Kini	g Ranch 5.4L   PCM / PATS			
DESCRIPTION	Code Assist			Repair Hotline
Code Criteria	Description	Element	Action	
CODE ASSIST	Frequently Reported Fixes	Battery Cable(s)	Replaced	Google
PCM Pin	Frequently Reported Fixes	Ignition Key(s)	Replaced	Mirhalli
	Frequently Reported Fixes	Starter	Replaced	Mitteriail
SCAN TEST	Frequently Reported Fixes	Vehicle Theft Detection (VTD) System Learn Procedure	Performed	
Diagram				Diagrams
V WAVEFORM				Ι <u></u>
TSB REFERENCE				

#### AutolD<sup>®</sup>

- a. Automatically selects the vehicle using OBD II Mode 9.
- b. Identifies vehicles to quickly set up year, make, model, and engine.
- c. Coverage: AutoID can be a very fast and accurate way to select a vehicle. AutoID retrieves the VIN number from the vehicle's on-board computer for OEM's that support the function. The function used is Mode 9 Vehicle Information which is one of the 10 modes of the OBD II regulation. As illustrated below, Mode 9's support of AutoID varies by OEM and model year. Very few OEM's support Mode 9 VIN from 1996–2000. Use the information below to understand when Auto ID is best used. 2000–2004—some US vehicles may respond to Mode 9 From 2000–2004 it was only used at the OEMs discretion.
- d. 2005–2007 many US vehicles will respond to Mode 9 From 2000–2007 it was CARB advised, but not required
- e. 2008–current—virtually all US vehicles are required to respond to Mode 9 OBDII Mode 9 was not ARB required until 2008MY ss02433



## MD-350 Quick Start Guide

## OTC Technical Support: (800) 533-6127

Please record and retain this important information:

Part No:

Serial No:

Purchase Date: