

# MaxiDiag MD909 Pro



**USER MANUAL** 

# Patent

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## IMPORTANT

Before operating or maintaining this tool, please read this manual carefully, paying extra attention to the safety warnings and precautions.

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## **Safety Information**

For your own safety and the safety of others, and to prevent damage to the tool and vehicles upon which it is used, it is important that the safety instructions presented throughout this manual be read and understood by all persons operating or coming into contact with the tool.

There are various procedures, techniques, tools, and parts required for servicing vehicles, as well as the skills of the person doing the work. Because of the vast number of test applications and variations in the products that can be tested with this tool, we cannot possibly anticipate or provide advice or safety messages to cover every circumstance. It is the automotive technician's responsibility to be knowledgeable of the system being tested. It is crucial to use proper service methods and test procedures. It is essential to perform tests in an appropriate and acceptable manner that does not endanger your safety, the safety of others in the work area, the tool being used, or the vehicle being tested.

Before using the tool, always refer to and follow the safety messages and applicable test procedures provided by the manufacturer of the vehicle or equipment being tested. Use the tool only as described in this manual. Be sure to read, understand, and follow all safety messages and instructions in this manual.

## **Safety Messages**

Safety messages are provided to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.

## 

Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

## 

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

## **Safety Instructions**

The safety messages herein cover situations Autel is aware of at the time of publication. Autel cannot know, evaluate or advise you as to all of the possible hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

# 

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 serious personal injury or loss of life.

# 

- Always perform automotive testing in a safe environment.
- Wear safety eye protection that meets ANSI standards.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well-ventilated work area, for exhaust gases are poisonous.
- Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
- Be extra cautious when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
- Keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.
- Do not connect or disconnect any test equipment while the ignition is on or the engine is running.
- Keep the test equipment dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clean the outside of the equipment as necessary.
- Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident.
- Refer to the service manual for the vehicle being serviced and adhere to all diagnostic procedures and precautions. Failure to do so may result in personal injury or damage to the test equipment.
- To avoid damaging the test equipment or generating false data, make sure the vehicle battery is fully charged and the connection to the vehicle DLC is clean and secure.
- Do not place the test equipment on the distributor of the vehicle. Strong electromagnetic interference can damage the equipment.

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# **1** Using This Manual

This manual contains tool usage instructions.

Some illustrations shown in this manual may make reference to modules and optional equipment that are not included in your system. Contact your sales representative for availability of other modules and optional tools or accessories.

# 1.1 Conventions

The following conventions are used:

## 1.1.1 Bold Text

Bold text is used to highlight selectable items such as buttons and menu options.

Example:

• Tap **OK**.

## 1.1.2 Notes and Important Messages

#### 1.1.2.1 Notes

A **NOTE** provides helpful information such as additional explanations, tips, and comments.

#### 1.1.2.2 Important

**IMPORTANT** indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

## 1.1.3 Hyperlinks

Hyperlinks are available in electronic documents. Blue italic text indicates a selectable hyperlink; blue underlined text indicates a website link or an email address link.

## 1.1.4 Illustrations

Illustrations used in this manual are samples; the actual testing screen may vary for each

vehicle being tested. Observe the menu titles and on-screen instructions to make correct option selection.

## 1.1.5 Procedures

An arrow icon indicates a procedure.

Example:

- > To power down the MaxiDiag tool
  - 1. Long press the **Power/Lock** button.
  - 2. Tap Power Off.
  - 3. Tap **OK**. The tool will turn off in a few seconds.

# **2** General Introduction

There are two main components to the MaxiDiag system:

- MaxiDiag Tool the central processor and monitor for the system.
- MaxiVCI V150 Lite a vehicle OBDII communication interface.

This manual describes the construction and operation of both devices and how they work together to deliver diagnostic solutions.

# 2.1 MaxiDiag Tool

## 2.1.1 Function Description



Figure 2-1 MaxiDiag Tool, Front View

- 1. 5.5" LCD Touchscreen
- 2. Ambient Light Sensor detects ambient brightness.
- 3. Power LED refer to Table 2-1 Power LED Description for details.

4. Power/Lock Button — long press to turn on/off the MaxiDiag tool; short press to lock the screen.

LED	Color	Description	
Power	Green	<ul> <li>Flashes green when the MaxiDiag tool is charging.</li> <li>Lights solid green when the MaxiDiag tool is fully charged.</li> </ul>	
	Red	Lights solid red when a problem is detected.	

Table 2-1 Power LED Description



Figure 2-2 MaxiDiag Tool, Back View

- 1. Speaker
- 2. Sticker



### Figure 2-3 MaxiDiag Tool, Bottom View

- 1. Micro SD Card Slot
- 2. USB Type-C Port
- 3. Microphone

## 2.1.2 Power Sources

The MaxiDiag tool can receive power from any of the following sources:

- Internal Battery Pack
- AC/DC Power Supply
- Vehicle Power

### IMPORTANT

Do not charge the battery when the temperature is lower than 0 °C (32 °F) or higher than 45 °C (113 °F).

#### 2.1.2.1 Internal Battery Pack

The MaxiDiag tool can be powered with its internal rechargeable battery, which if fully charged can provide sufficient power for about 6 hours of continuous operation.

#### 2.1.2.2 AC/DC Power Supply

The MaxiDiag tool can be powered from a wall socket using the AC/DC power adapter that connects to the USB Type-C cable. The AC/DC power supply also charges the internal battery pack.

#### 2.1.2.3 Vehicle Power

The MaxiDiag tool can be powered by connecting it to the auxiliary power outlet adapter receptacle or other DC power port on the test vehicle using a cable connection. The charging port for the MaxiDiag tool is located at the bottom. An adapter is required to establish the connection.

# 2.1.3 Technical Specifications

Item	Description	
Operating System	Android 9.0	
Processor	Quad-core processor (1.5 GHz)	
Memory	2 GB RAM & 64 GB ROM	
Display	5.5-inch LCD capacitive touchscreen with 1280 x 720 resolution	
Connectivity	<ul> <li>Wi-Fi (802.11 a/b/g/n/ac)</li> <li>USB Type-C</li> <li>Bluetooth</li> </ul>	
Sensor	Ambient Light Sensor (ALS)	
Audio Input/Output	<ul><li>Input: Microphone</li><li>Output: Speaker</li></ul>	
Power and Battery	<ul> <li>3.8 V/5000 mAh lithium-polymer battery</li> <li>Charges via 5 V DC power supply</li> </ul>	
Charging Input	5 V/1.5 A adapter	
Power Consumption	700 mA (LCD on with default brightness, Wi-Fi on) @3.8 V	
Operating Temp.	0 °C to 50 °C (32 °F to 122 °F)	
Storage Temp.	-10 °C to 60 °C (14 °F to 140 °F)	
Dimensions (W x H x D)	89.0 mm (3.5") x 183.0 mm (7.2") x 22.0 mm (0.87")	
Net Weight	368 g (0.8 lb.)	
Protocols	ISO9141-2, ISO14230-2, ISO15765, K/L-Line, Flashing Code, SAE-J1850 VPW, SAE-J1850PWM, ISO11898 (Highspeed, Middlespeed, Lowspeed and Singlewire CAN, fault-tolerant CAN), SAE J2610, GM UART, UART Echo Byte Protocol, Honda Diag-H Protocol, TP2.0, TP1.6, CAN FD	

## Table 2-2 Technical Specifications

# 2.2 MaxiVCI V150 Lite — Vehicle Communication Interface

MaxiVCI V150 Lite is a small vehicle communication interface (VCI) used to connect to a vehicle's DLC and can wirelessly connect with the MaxiDiag tool for vehicle data transmission.

# 2.2.1 Function Description



## Figure 2-4 MaxiVCI V150 Lite Views

- 1. Power/Connection LED indicates system status.
- 2. Vehicle Data Connector (16-pin) connects to the vehicle OBDII port directly.

#### Table 2-3 Power/Connection LED Description

LED	Color	Description
	Green	Solid Green: Powered on and has not been connected to a mobile device.
Power/Connection LED	Blue	<ul> <li>Solid Blue: Connected via Bluetooth.</li> <li>Flashing Blue: Communicating via Bluetooth.</li> </ul>
	Red	Solid Red: Updating the firmware or a system error has occurred.

## 

When the V150 Lite has lost connection from the device for more than 10 minutes, the LED goes off and the V150 Lite enters power-saving standby mode. The power LED will light when reconnected.

# 2.2.2 Technical Specifications

Item	Description
Communications	Bluetooth V5.0 + BR/EDR
Wireless Frequency	2.4 GHz
Input Voltage Range	8 to 24 V DC
Supply Current	500 mA @ 12 V DC
Operating Temperature	−10 to 50 °C (14 to 122 °F)
Storage Temperature	−20 to 60 °C (−4 to 140 °F)
Dimensions (L*W*H)	64.2 mm (2.52") x 45 mm (1.77") x 21.5 mm (0.85")
Weight	34.2 g (0.07 lb.)

## Table 2-4 Technical Specifications

# 2.3 Other Accessories

#### Table 2-5 Other Accessories

<b>Power Adapter</b> Together with the USB Type-C cable, connects the MaxiDiag tool to the external DC power port for power supply. <i>Note: For environmental reasons, the product package does</i> <i>not include a power charger in the European market. This</i> <i>device can be powered with most USB power adapters and a</i> <i>cable with USB Type-C plug.</i>
USB Type-C Cable (for Charging)

# **3** Getting Started

Ensure the tool is sufficiently charged or is connected to an external power supply. (See *Power Sources*.)

## **NOTE**

The images and illustrations depicted in this manual may differ slightly from those in the most recent product.

# 3.1 Powering Up

Long press the **Power/Lock** button on the right side of the tool to power it on. The system boots up and displays the MaxiDiag Job Menu.



Figure 3-1 MaxiDiag Job Menu

- 1. Status Information Bar
- 2. Application Buttons
- 3. Locator

# 3.1.1 Status Information Bar

The status information bar varies according to the stage of operations, and may display the items described in the table below.

lcon	Name	Description
vମ Vମ Vମ		Displays the VCI connection status. When the V150 Lite is properly connected to the vehicle and the tool, the VCI status icon will display a green " $\checkmark$ " mark, otherwise, it will display a red " $\times$ " mark.
Diage of f		Displays the current voltage value of the connected device. (Available when accessing the Battery Test function)
Bluetooth Indicates		Indicates the Bluetooth connection is enabled.
The strengt         Indicate           Strengt         Strengt		Indicates that Wi-Fi is connected and displays the signal strength.
100	Battery Level	Displays the remaining battery power.

## Table 3-1 Status Information Bar

## 3.1.2 Application Buttons

The touchscreen navigation is menu-driven, enabling quick access to functions and features by tapping the buttons on the screen. The table below briefly describes each of the applications in the MaxiDiag system.

#### **Table 3-2 Applications**

Button	Name	Description
Î	Diagnostics	Accesses the Diagnostics functions menu. See <i>Diagnostics</i> .
F	Service	Accesses the Service functions menu for vehicles. See Service.

Button	Name	Description
	Data Manager	Accesses the organization system for saved data and files. See <i>Data Manager</i> .
VCI	VCI Manager	Pairs the MaxiDiag tool and MaxiVCI V150 Lite. Checks the communication status and updates the VCI firmware. See <i>VCI Manager</i> .
SettingsEnables configuration of MaxiDiag s settings, and provides access to ge the tool. See Settings.		Enables configuration of MaxiDiag system settings, general settings, and provides access to general information about the tool. See <i>Settings</i> .
	Update	Checks for the latest updates available for the MaxiDiag system and installs new software. See <i>Update</i> .
K	Remote Desktop	Configures the tool to receive remote support using the TeamViewer application. See <i>Remote Desktop</i> .
Autel User CenterAllows you to register an account, personal profile, and link your tool. See		Allows you to register an account, view, and edit your personal profile, and link your tool. See <i>Autel User Center</i> .
1 40	Battery Test	Accesses the Battery Test menu with two functions: in- vehicle and out-of-vehicle tests. See <i>Battery Test</i> .
	MaxiTools	Accesses multiple useful tools such as quick links and log collection.
	OEM Authorization	Manages the permissions for unlocking the OE gateway.

# 3.1.3 Locator

The locator icon displays at the bottom of the Job Menu. Swipe the screen left or right to

view the previous or next screen.

## 3.1.4 System Status Icons

By swiping down from the top of the screen, a Shortcuts Panel will appear, allowing you to adjust various system settings of the tool. The operations of each button on the panel are described in the table below.

lcon	Name	Description	
*	Bluetooth	Enables/Disables Bluetooth connection.	
((+	Wi-Fi	Enables/Disables Wi-Fi connection.	
Ņ	Screenshot	Takes a screenshot of the current screen.	
	Automatic Brightness	Automatically adjusts the brightness.	
Ĭ	Screen Record	Records the screens.	
	Logger	Accesses the Log Collection screen.	
515 75	Restart	Restarts the tool.	
VCI	VCI Manager	Launches the VCI Manager screen.	
**			
Screen Brightness Slider — Slide to manually adjust the screen brightness.			
<b>Volume Slider</b> — Slide to manually adjust the volume.			

Table 3-3 System Status Icons

# 3.2 Powering Down

All vehicle communications must be terminated before shutting down the tool. A warning message appears if you attempt to shut down the tool while it is communicating with the vehicle. Forcing a shut-down while communicating may lead to ECU problems on some vehicles. Please exit the vehicle communication before powering down.

## > To power down the MaxiDiag tool

- 1. Long press the **Power/Lock** button.
- 2. Tap Power Off.
- 3. Tap **OK**. The tool will turn off in a few seconds.

## 3.2.1 Reboot System

In case of a system crash, long press the **Power/Lock** button and tap the **Restart** option to reboot the system.

# **4** Diagnostics

By establishing a data connection to the electronic control systems of the vehicle being serviced through the VCI (MaxiVCI V150 Lite) device, the Diagnostics application allows you to access the electronic control unit (ECU) for various vehicle control systems, including engine, electrical, and transmission. With this access, you can retrieve ECU information, read & erase DTCs, and view live data.

# 4.1 Establishing Vehicle Communication

Prior to performing the Diagnostics function, ensure the MaxiDiag tool is connected to the test vehicle through the MaxiVCI V150 Lite. To establish a proper vehicle communication between the tool and the test vehicle, you can perform the following steps:

- 1. Connect the MaxiVCI V150 Lite to the vehicle's DLC for both communication and power supply.
- 2. Connect the MaxiVCI V150 Lite to the MaxiDiag tool via Bluetooth connection.
- 3. A green "√" mark will be displayed on the VCI status icon, indicating the communication between the MaxiVCI V150 Lite and the MaxiDiag tool has been established, and the tool is ready for vehicle diagnosis.

## 4.1.1 Vehicle Connection

To connect the MaxiVCI V150 Lite device to the test vehicle, insert the vehicle data connector on the MaxiVCI V150 Lite into the vehicle's DLC (usually located under the vehicle dashboard), and the MaxiVCI V150 Lite will be automatically powered on.

## **NOTE**

The vehicle's DLC is not always located under the dashboard. Refer to the vehicle's user manual for DLC location.

## 4.1.2 VCI Connection

After the MaxiVCI V150 Lite device is properly connected to the vehicle, the Power LED illuminates solid green, indicating that it is ready to establish a communication with the MaxiDiag tool.

## 4.1.2.1 Bluetooth Connection

Connect the MaxiVCI V150 Lite to the MaxiDiag tool via Bluetooth connection. The Bluetooth connection does not need to repeat the plugging and unplugging procedure, which is unavoidable when using the traditional wired connection, saving more time and providing higher efficiency.

### > To pair the MaxiVCI V150 Lite with the MaxiDiag tool

- 1. Power on the MaxiDiag tool.
- Insert the 16-pin vehicle data connector of the MaxiVCI V150 Lite into the vehicle data link connector (DLC). Make sure the vehicle's ignition is in the ON position.
- 3. Tap the VCI Manager application from the Job Menu.
- 4. Select the **Bluetooth** tab and tap the **Scan** button at the upper-right corner of the screen. The tool will automatically search for available pairing units.
- 5. The device name may display as "Maxi-" suffixed with a serial number. Select the appropriate device for pairing.
- 6. When the pairing is successfully done, the connection status displayed to the right of the device name is shown as "**Paired**," the VCI status icon on the top of the screen displays a green "√" mark, and the Connection LED on the MaxiVCI V150 Lite illuminates solid blue. The MaxiDiag tool is now ready for vehicle diagnosis. If you need to disconnect the connected device, tap it again.



Figure 4-1 VCI Bluetooth Pairing Successful Screen

7. Tap the **Home** button or **Back** button on the upper-left corner of the screen to return to the Job Menu.

# ⊘ NOTE

A VCI device can only be paired with one tool at a time, and once it is paired, the VCI will not be discoverable to other devices.

# 4.1.3 No Communication Message

- A. If the MaxiDiag tool is not connected to the MaxiVCI V150 Lite correctly, an "Error" message may display. This indicates that the tool cannot access the vehicle control module. In this case, please do the following check-ups:
  - Check if the MaxiVCI V150 Lite is powered up.
  - Check if the MaxiVCI V150 Lite is properly positioned.
  - Check if the Connection LED on the MaxiVCI V150 Lite is illuminated for Bluetooth connection.
  - Check if the network is configured correctly, or if the right MaxiVCI V150 Lite has been paired up with the MaxiDiag tool.
    - During the diagnosis process, if the communication is suddenly interrupted due to the loss of signal, check if there is any object that causes signal interruption.
    - Try standing closer to the MaxiVCI V150 Lite to obtain more stable signals and faster communication speed.
- B. If the MaxiVCI V150 Lite is unable to establish a communication link, a prompt message displays with check instructions. The following conditions are the possible causes:
  - The MaxiVCI V150 Lite is unable to establish a communication link with the vehicle.
  - The system selected for testing is not equipped on the vehicle.
  - There is a loose connection.
  - There is a blown vehicle fuse.
  - There is a wiring fault of the vehicle or the adapter.
  - There is a circuit fault in the adapter.
  - Incorrect vehicle identification was entered.

# 4.2 Getting Started

Before beginning the diagnostics process, ensure that a communication connection has been established between the test vehicle and the MaxiDiag tool using the MaxiVCI V150 Lite. See *Establishing Vehicle Communication* for details.

## 4.2.1 Vehicle Menu Screen

When the MaxiDiag tool is properly connected to the vehicle, it is ready to start vehicle diagnosis. Tap the **Diagnostics** application on the Job Menu to access the vehicle menu.



Figure 4-2 Vehicle Menu Screen

- 1. Top Toolbar Buttons
  - Back Button returns to the previous screen.
  - VIN Button tap to select a vehicle identification method.
- 2. Vehicle Manufacturer Buttons select the vehicle manufacturer to start a diagnostics session.

# 4.3 Vehicle Identification

The MaxiDiag tool supports four methods of vehicle identification:

1. Auto VIN Scan

- 2. Manual VIN Input
- 3. Automatic Selection
- 4. Manual Selection

# 4.3.1 Auto VIN Scan

The MaxiDiag tool features the latest VIN-based Auto VIN Scan function to identify vehicles, scan all the diagnosable ECUs, and run diagnostics on the selected system.

## > To perform an Auto VIN Scan

- 1. Tap the **Diagnostics** application on the Job Menu.
- 2. Tap the VIN button to open the dropdown list and select AutoVIN.



Figure 4-3 VIN Screen

3. Once the test vehicle is identified, the screen will display the VIN. Tap **OK** at the bottom to confirm the VIN. If the VIN does not match the test vehicle's VIN, enter the VIN manually or tap **Read** to acquire the VIN again.



Figure 4-4 VIN Information Screen

- 4. Review the vehicle information on the screen. Tap **Yes** to confirm the vehicle profile or tap **No** to cancel.
- The tool establishes communication with the vehicle and opens the Main menu. Tap **Diagnosis** and then select **Auto Scan** to scan all the test vehicle available systems or tap **Control Unit** to access a specific system to diagnose.

## 4.3.2 Manual VIN Input

For vehicles that do not support the Auto VIN Scan function, you may manually enter the VIN.

#### > To perform the Manual VIN Input

- 1. Tap the **Diagnostics** application on the Job Menu.
- Tap the VIN button (Figure 4-3) to open the dropdown list and select Enter VIN Manually.
- 3. Enter the correct VIN into the input box.
- 4. Tap **OK**. Once the vehicle is identified, the Vehicle Diagnostics screen will display.
- 5. Tap Cancel to exit Input VIN.

# 4.3.3 Automatic Selection

The vehicle VIN can also be automatically acquired after a vehicle manufacturer is selected.

### > To perform the Automatic Selection

- 1. Tap the **Diagnostics** application on the Job Menu.
- 2. Select a vehicle manufacturer from the Vehicle Menu screen.
- 3. Select the Automatic Selection option.



Figure 4-5 Selection Screen

4. The MaxiDiag tool will acquire VIN information automatically and guide you to advance to the Vehicle Diagnostics screen.

## 4.3.4 Manual Selection

When the VIN is not automatically retrievable through the vehicle's ECU, or when the VIN is unknown, you can select the vehicle manually.

#### > To perform Manual Selection

- 1. Tap the **Diagnostics** application on the Job Menu.
- 2. Select a vehicle manufacturer from the Vehicle Menu screen.
- 3. Select the Manual Selection option (Figure 4-5).

4. Follow the on-screen instructions to complete the step-by-step selection and finally enter the Vehicle Diagnostics screen.

# 4.4 Navigation

After the test vehicle is identified, the Vehicle Diagnostic screen will display. This section consists of various commonly used functions, including Auto Scan and Control Unit. The available functions displayed vary depending on the test vehicle.

# 4.4.1 Diagnostics Screen Layout



Figure 4-6 Vehicle Diagnostics Screen

The Diagnostics screen typically includes three sections:

- 1. Top Toolbar Buttons
- 2. Main Section
- 3. Function Buttons

#### 4.4.1.1 Top Toolbar Buttons

The top toolbar contains several buttons to navigate and control the screen. The table below describes the commonly used buttons, which are available throughout the whole diagnostics procedure.

Table 4-1	Тор	Toolbar	<b>Buttons</b>
-----------	-----	---------	----------------

Button	Name	Description	
<	Back	Returns to the previous screen.	
	Vehicle Swap	Exits the service session of the currently identified test vehicle and returns to the Vehicle Menu screen.	
vci	VCI	Displays the VCI connection status. A green "√" mark indicates the VCI device is properly connected. Otherwise, it will display a red "×" mark.	
	Data Logging	Records the communication data and ECU information of the test vehicle. When encountering an error during testing and diagnosing, use this function to contact Autel's technical support for solutions. The Data Logging function is available in the Diagnostics and the Service applications. See <i>Data Logging</i> for details.	

#### > To send a message to the technical center

- 1. After a testing or diagnostics session is done, tap the **Data Logging** button on the upper-right corner of the screen to make a selection of the error type.
- 2. Tap **OK** to open the Details screen.
- 3. Describe problems in details in the Reason for Sending section.

#### 4.4.1.2 Main Section

The main section of the screen varies according to the stage of operations, which may display the diagnostics menu, test data, messages, instructions, and other diagnostics information.

#### 4.4.1.3 Function Buttons

The displayed function buttons vary depending on the stage of operations. These buttons can be used to navigate menus, to save or clear diagnostics data, to exit scanning, and to perform a number of other control functions. The use of these buttons will be discussed in detail in the following sections of the corresponding test operations.

## 4.4.2 Screen Messages

Screen messages will appear when additional input is needed before proceeding. There are three main types of on-screen messages: Confirmation, Warning, and Error.

## 4.4.2.1 Confirmation Messages

Confirmation messages inform you when you are about to perform an action that cannot be reversed or when an action has been initiated and confirmation is needed to continue.

When a user-response is not required to continue, the message displays briefly.

## 4.4.2.2 Warning Messages

This type of messages displays a warning that a selected action may result in an irreversible change or loss of data. An example of this type of message is the "Erase Codes" message.

## 4.4.2.3 Error Messages

Error messages display when a system or procedural error has occurred. Examples of possible errors include cable disconnection or communication interruption.

## 4.4.3 Making Selections

The Diagnostics application is a menu-driven program that presents a series of choices. As a selection is made, the next menu in the series displays. Each selection narrows the focus and leads to the desired test. Tap the screen to make menu selections.

# 4.5 Diagnostics Function Entrance

There are two options available when accessing the diagnostics function:

- 1. Auto Scan starts auto scanning for all the available systems on the vehicle.
- 2. Control Unit displays a selection menu for all available control units of the test vehicle.

After a selection is made and the MaxiDiag tool establishes communication with the vehicle, the corresponding function menu or selection menu will display.

## 4.5.1 Auto Scan

The Auto Scan function performs a comprehensive scan of all the vehicle's ECUs to locate system faults and retrieve DTCs. An example of the Auto Scan interface is shown below.

<	Auto scan	vci 📕	
1	Navigation system	Fault 2 >	
2	Central gateway	Fault 4 >	
3	Pre-Collision system (PCS)	Fault 1 >	
4	Engine	Pass No > Fault	
5	Hybrid control	Pass No Fault	
6	ABS/VSC/TRC	Pass No Fault	-2
7	SRS airbag	Pass No Fault	
8	Combination meter	Pass No Fault	
9	Electric parking brake	Pass No Fault	
Creat	e PDF Save Report Report	Quick Erase	-3

Figure 4-7 Auto Scan Screen

- 1. Progress Bar indicates the test progress.
- 2. Main Section

Column 1 — displays the sequence numbers.

Column 2 — displays the scanned systems.

Column 3 — displays the diagnostic indicators describing test results:

- Fault(s) | #: Fault(s) indicate(s) there is/are detected fault code(s) present; "#" indicates the number of the detected faults.
- Pass | No Fault: Indicates the system has passed the scanning process and no fault has been detected.

Column 4 — tap to enter the related system to view the detailed information and perform further diagnosis or testing.

3. Function Buttons

The table below provides a brief description of the function buttons.

Table 4-2 Function Buttons in Auto Scan Screen

Name	Description
Create PDF	Generates a PDF file based on the current page data.
Save Report	Saves the diagnostics data in a report form. The reports can be saved locally or uploaded to the Autel cloud platform for sharing.
Report	Display the DTC status report after scanning the test vehicle.
Quick Erase	Deletes fault codes. A warning message screen will display to inform you of possible data loss when this function is selected.
ок	Confirms the test result. Continues the system diagnosis after a required system is selected by tapping the item in the main section.
Pause	Suspends scanning during the scanning process and it will change to the <b>Continue</b> button after tapping. This button is available in scanning process, and will turn gray when the scanning is done.
ESC	Returns to the previous screen or exits the Auto Scan screen.

# 4.5.2 Control Unit

The Control Unit function allows you to manually locate a required control system for testing through a series of choices. Follow the menu-driven procedures and make proper selections; the tool will guide you to the proper diagnostics function menu based on your selections.

# 4.6 Diagnostics Functions

## > To perform a diagnostic function

- 1. Establish a communication with the test vehicle.
- 2. Identify the test vehicle by selecting from the menu options.
- 3. Locate the required system for testing by tapping **Auto Scan** or through menudriven selections in **Control Unit**.
- 4. Select the desired diagnostics function from the Function Menu screen.

<	•	Function menu	vci	
ECU	J inform	nation		>
Tro	uble co	des		>
Live	e data			>
		ESC		

Figure 4-8 Function Menu Screen

Available functions may vary by vehicle. The function menu may include:

- ECU Information provides the retrieved ECU information in detail.
- Trouble Codes retrieves DTCs directly after tapping this button.
- Live Data retrieves and displays live data and parameters from the vehicle's ECU.

## 4.6.1 ECU Information

This function retrieves and displays all essential information for the test vehicle. Once tapped, a selection menu will open, allowing you to access the desired information screen.

< 🗈 ECU inf	ormation va 📕
Part number	33920-85S4*
Component ID	33920-72R1
Version	LSGEME748.6020581
Create PDF	ESC

Figure 4-9 ECU Information Screen

## 4.6.2 Trouble Codes

This function retrieves and displays the DTCs from the vehicle's control system. The Trouble Codes screen varies for each vehicle being tested. On some vehicles, freeze frame data can also be retrieved for viewing.



Figure 4-10 Trouble Codes Screen

- 1. Main Section
  - DTC Name displays the retrieved DTCs from the vehicle.
  - Description detailed description of the retrieved DTCs.
  - Status indicates the status of the retrieved codes.
  - Snowflake Icon displays when freeze frame data is available for viewing; selecting this icon will display a data screen.
- 2. Function Buttons enables you to control the tool to perform certain functions or actions. The function buttons may vary depending on the vehicle being tested. The table below describes the function buttons that may be included.

Name	Description
Create PDF	Generates a PDF file based on the current page data.
Save Report	Saves the diagnostics data in a report form. The reports can be saved locally or uploaded to the Autel cloud platform for sharing.
Search	Searches the selected DTC for additional information.
Erase DTCs	Deletes DTCs. A warning message screen will display to inform you of possible data loss when this function is selected.
ESC	Returns to the previous screen or exits the Trouble Codes screen.

## Table 4-3 Function Buttons in Trouble Codes Screen

## **NOTE**

Before performing the Erase DTCs function, ensure that the vehicle's ignition key is in the ON (RUN) position while the engine is off.

## > To erase DTCs

- 1. After reading the retrieved DTCs and making appropriate vehicle repairs, tap **Erase DTCs** from the function buttons on the Trouble Codes screen.
- 2. A warning message displays to inform you of data clearing when this function is applied.
  - Tap Yes to continue. A Confirmation screen displays when the operation is successfully done.

- ♦ Tap No to exit.
- 3. Tap **ESC** on the Confirmation screen to exit the Erase DTCs function.
- 4. Tap **Trouble Codes** again to confirm whether the DTCs have been erased successfully.

## 4.6.3 Live Data

When this function is selected, the screen displays the data list for the selected module. The items available for any control module vary by vehicle. The parameters display in the order that they are transmitted by the ECU, so expect variation among vehicles.

Gesture scrolling allows you to quickly move through the data list. Touch the screen and drag your finger up or down to reposition the parameters being displayed if the data occupies more than one screen.



Figure 4-11 Live Data Screen

- 1. Main Section
  - Parameter Name displays the retrieved parameters from the vehicle.
  - Status and Value displays the status and current value of the parameters.
  - Information Icon tap to view more information of the parameters.
  - Settings Icon tap to select a data display mode and set the value range.
- 2. Function Buttons enables you to control the tool to perform certain functions or actions. The function buttons may vary depending on the stage of the diagnostics.
## **Display Mode**

There are three types of display modes available for data viewing, allowing you to view various types of parameters in the mode best suited to represent the data. Each parameter item displays the selected mode independently.

<	Live Data Details	vel 🍺
Total distan	ce traveled	
Display Mod	le	
A	₹ E	Q
Custom Ran	ge	
Current Valu	le	43330
Restore Default Settings		

Figure 4-12 Live Data Details Screen

The table below describes the three display modes in detail.

Table 4-4 Display Mode for Data Viewing

Button	Name	Description	
А	Text Mode	The default mode that displays the parameters as a text list.	
K	Waveform Graph Mode	Displays the parameters in waveform graphs.	
Ŷ	Analog Gauge Mode	Displays the parameters in gauge charts.	

#### > To select the display mode

- 1. Tap the **Settings** icon a on the right side of a parameter name to access the Live Data Details screen.
- 2. Select the display mode you need, and the parameters will display based on your selection.
- 3. Tap the **Restore Default Settings** button to return to the default settings if needed.

### **Trigger Settings**

The Trigger Settings function is only available in Waveform Graph and Analog Gauge modes. You can set a standard range by specifying a minimum value and a maximum value to reach the trigger condition. When exceeding this range, the trigger function will be executed and the tool will automatically record and save the generated data.

### > To set a trigger

- 1. Tap the **Settings** icon a on the right side of a parameter name to access the Live Data Details screen.
- 2. Select Waveform Graph Mode or Analog Gauge Mode.
- 3. Make sure the button for the trigger is **ON**.
- 4. Enter the required lower limit value and upper limit value.

<	Live Data Details	vđ 🛒
engine spee	d	
Display Mod	e	
А	► E	Q
Custom Ran	ge	
Current Valu	e	8192 r/min
Trigger Setti	ngs	
Trigger		
MIN		
7000.0		
MAX		
9000.0		
F	Restore Default Setting	s

Figure 4-13 Trigger Settings Screen

5. Tap the **Back** button to return to the Live Data screen.

# 4.7 Generic OBDII Operations

This option presents a quick way to check for DTCs, isolate the cause of an illuminated malfunction indicator lamp (MIL), check monitor status prior to emissions certification testing, and perform a number of other services that are emissions-related. The OBD direct access option is also used for testing OBDII/EOBD compliant vehicles that are not included in the database.

The top toolbar buttons are typically the same as those available for specific vehicle diagnostics. See *Table 4-1 Top Toolbar Buttons* for details.

## 4.7.1 General Procedure

## > To access the OBDII/EOBD diagnostics functions

- 1. Tap the **Diagnostics** application on the Job Menu. The vehicle menu displays.
- 2. Tap the **EOBD** button. There are two options to establish a communication with the vehicle.
  - Auto Scan when this option is selected, the scan tool attempts to establish communication using each protocol in order to determine the one from which the vehicle is broadcasting.
  - Protocols select it to open a submenu of various protocols. A communication protocol is a standardized way of data communication between an ECM and a diagnostics tool. Global OBD may use several different communication protocols.
- 3. Select a specific protocol under the **Protocol** option. Wait for the OBDII Diagnostics Menu to appear.

< 🕩	Function menu vo	9	
1	DTC&FFD 🚺		
(I/M)	I/M readiness 🕕		
łw	Live data 🕕		
6	On-Board monitor ()		
°	Component test 🕦		
	Vehicle information ()		
	Vehicle status 🜖		
	ESC		

Figure 4-14 OBDII Diagnostics Function Menu

# NOTE Tap the button for additional function information. 4. Select a function option to continue. DTC & FFD I/M Readiness

- Live Data
- On-Board Monitor
- Component Test
- Vehicle Information
- Vehicle Status

## **NOTE**

The supported functions may vary by vehicle.

# 4.7.2 Function Descriptions

This section describes the various functions of each diagnostics option:

## 4.7.2.1 DTC & FFD

When this function is selected, the screen displays a list of Current Codes and Pending

Codes. When the freeze frame data of certain DTCs are available for viewing, a snowflake icon will display on the right side of the DTC item. The Erase Codes and Read codes functions can be applied by tapping the function buttons at the bottom of the screen.

### Current Codes

Current codes are emission-related DTCs from the ECM of the vehicle. OBD II/EOBD Codes have a priority according to their emission severity, with higherpriority codes overwriting lower-priority ones. The priority of the code determines the illumination of the malfunction indicator lamp (MIL) and the codes erase procedure. Manufacturers rank codes differently, so DTCs may vary by vehicle.

### • Pending Codes

These are codes whose storing conditions have been met during the last drive cycle, but need to be met on two or more consecutive drive cycles before the DTC stored. The purpose of displaying pending codes is to assist the service technician after a vehicle repair when diagnostics information is cleared, by reporting test results after a single driving cycle.

- a) If a test fails during the driving cycle, the DTC associated is reported. If the pending fault does not occur again within 40 to 80 warm-up cycles, the fault is automatically cleared from memory.
- b) Test results reported do not necessarily indicate a faulty component or system. If test results indicate another failure after additional driving, a DTC is stored to indicate a faulty component or system.

#### • Freeze Frame

In most cases the stored frame is the last DTC reported. Certain DTCs, those that have a greater impact on vehicle emission, have a higher priority. In these cases, DTC of the highest priority is the one for which the freeze frame records are retained. Freeze frame data includes a "snapshot" of critical parameter values at the time the DTC is stored.

### Erase Codes

This option is used to clear all emission-related diagnostics data including DTCs, freeze frame data, and specific manufacturer-enhanced data from the vehicle ECM. This option resets the I/M Readiness Monitor Status for all vehicle monitors to Not Ready or Not Complete status.

A confirmation screen displays when the clear codes option is selected to prevent accidental loss of data. Select **Yes** on the confirmation screen to continue, or select **No** to exit.

## 4.7.2.2 I/M Readiness

This function is used to check the readiness of the monitoring system. It is an excellent function to use prior to having a vehicle inspected for state emissions compliance. Selecting I/M Readiness opens a submenu with two choices:

- Since DTCs Cleared displays the status of monitors since the last time the DTCs are erased.
- This Driving Cycle displays the status of monitors since the beginning of the current drive cycle.

## 4.7.2.3 Live Data

This function enables the display of real-time PID data from the ECU. Displayed data includes analog and digital input and output, and system status information broadcast in the vehicle data stream.

Live data can be displayed in various modes. See Live Data for detailed information.

## 4.7.2.4 On-Board Monitor

This function allows you to view the results of On-Board Monitor tests. The tests are useful after the service when a vehicle's control module memory is already erased.

### 4.7.2.5 Component Test

This function enables dual-directional control of the ECM so that the diagnostics tool can transmit control commands to operate the vehicle systems. This function is useful in determining how well the ECM responds to a command.

### 4.7.2.6 Vehicle Information

This function enables the display of the vehicle identification number (VIN), calibration identification number, calibration verification number (CVN), and other information of the test vehicle.

### 4.7.2.7 Vehicle Status

This function checks the current condition of the vehicle, such as the communication protocols of OBDII modules, number of fault codes, and status of the malfunction indicator lamp (MIL).

# 4.8 Exiting Diagnostics

The Diagnostics application remains open as long as there is an active communication with the vehicle. You must exit the diagnostics operation to stop all communications with the vehicle before closing the Diagnostics application.

## **NOTE**

Damage to the vehicle electronic control module (ECM) may occur if the communication is disrupted. Ensure all forms of communication links, such as data cable, USB cable, and wireless or wired network, are properly connected throughout the test. Exit all interfaces before disconnecting the test cable and power supply.

### > To exit the Diagnostics application

- 1. From an active diagnostics screen, tap the **Back** or **ESC** button to exit a diagnostics session; Or,
- 2. From the Vehicle Menu screen, tap the **Back** button to exit the application directly.

Now, the Diagnostics application is no longer communicating with the vehicle and the tool is safe to open other applications.

# 5 Service

The Service application is specially designed to provide quick access to the vehicle systems for various scheduled service and maintenance tasks. The typical service operation screen is a series of menu-driven executive commands. Follow the on-screen instructions to select appropriate execution options, enter correct values or data, and perform necessary actions. The application will display detailed instructions to complete selected service operations.

The most commonly used services are described in this chapter.

- Oil Reset Service
- EPB Service
- TPMS Service
- BMS Service
- DPF Service
- SAS Service



Figure 5-1 Service Screen

Upon accessing each special function, the screen will display the corresponding Vehicle

Menu that supports that function. Choose a vehicle from the menu, and then select the diagnostics type to enter the Main Menu screen. In the Main Menu screen, you will find two options: **Diagnosis** and **Hot Functions**. The Diagnosis option includes Auto Scan and Control Unit, which are identical operations to those found in the Diagnostics application. The Hot Functions option consists of sub-functions that are relevant to the selected special function.

# 5.1 Oil Reset Service

This function performs reset of the Engine Oil Life system, which calculates the optimal oil life change interval depending on the vehicle driving condition and climate. The Oil Life Reminder must be reset each time the oil is changed, so the system can calculate when the next oil change is required.

## **NOTE**

- 1. Always reset the engine oil life to 100% after every oil change.
- 2. All required work must be carried out before the service indicators are reset. Failure to do so may result in incorrect service values and cause DTCs to be stored by the relevant control module.
- For some vehicles, the tool can reset additional service lights such as the maintenance cycle and service interval. On BMW vehicles for example, service resets include engine oil, spark plugs, front/rear brakes, coolant, particle filter, brake fluid, micro filter, vehicle inspection, exhaust emissions inspection and vehicle checks.

# 5.2 Electric Parking Brake (EPB) Service

This function has a multitude of usages to maintain the electronic braking system safely and effectively. The applications include deactivating and activating the brake control system, assisting with brake fluid control, opening and closing brake pads, and setting brakes after disc or pad replacement.

## 5.2.1 EPB Safety

It can be dangerous to perform Electric Parking Brake (EPB) system maintenance, so before you begin the service work, please keep these rules in mind:

- ✓ Ensure that you are fully familiar with the braking system and its operation before commencing any work.
- ✓ The EPB control system may be required to be deactivated before carrying out any maintenance/diagnostic work on the brake system. This can be done from the tool menu.

- ✓ Only perform maintenance work when the vehicle is stationary and on level ground.
- ✓ Ensure that the EPB control system is reactivated after the maintenance work has been completed.

## **NOTE**

Autel accepts no responsibility for any accident or injury arising from the maintenance of the Electric Parking Brake system.

# 5.3 Tire Pressure Monitoring System (TPMS) Service

This function allows you to quickly look up the tire sensor IDs from the vehicle's ECU, as well as to perform TPMS replacement and reset procedures after tire sensors are replaced.

# 5.4 Battery Management System (BMS) Service

The Battery Management System (BMS) allows the tool to evaluate the battery charge state, monitor the close-circuit current, register the battery replacement, activate the rest state of the vehicle, and charge the battery via the diagnostic socket.

## **NOTE**

- 1. This function is not supported by all vehicles.
- 2. The sub functions and actual test screens of the BMS may vary by vehicle, please follow the on-screen instructions to make correct selections.

The vehicle may use either a sealed lead-acid battery or an AGM (Absorbed Glass Mat) battery. Lead acid battery contains liquid sulphuric acid and can spill when overturned. AGM battery (known as VRLA battery, valve regulated lead acid) also contains sulphuric acid, but the acid is contained in glass mats between terminal plates.

It is recommended that the replacement aftermarket battery has the same specifications, such as capacity and type, as the exiting battery. If the original battery is replaced with a different type of battery (e.g. a lead-acid battery is replaced with an AGM battery) or a battery with a different capacity (mAh), the vehicle may require reprogramming of the new battery type, in addition to, performing the battery reset. Consult the vehicle manual for additional vehicle-specific information.

# 5.5 Diesel Particulate Filter (DPF) Service

The Diesel Particulate Filter (DPF) function manages DPF regeneration, DPF component replacement teach-in, and DPF teach-in after replacing the engine control unit.

The ECM monitors driving style and selects a suitable time to employ regeneration.

Vehicles driven a lot at idle speed and low load will attempt to regenerate earlier than those driven with higher load and speed. In order for regeneration to take place, a prolonged high exhaust temperature must be obtained.

In the event of the vehicles being driven in such a way that regeneration is not possible, i.e., frequent short journeys, a diagnostic trouble code will eventually be registered in addition to the DPF light and "Check Engine" indicators displaying. A service regeneration can be requested in the workshop using the diagnostics tool.

Before initiating a forced DPF regeneration using the tool, check the following items:

- The fuel light is not on.
- No DPF-relevant faults are stored in the system.
- The vehicle has the specified engine oil.
- The oil for diesel is not contaminated.

### IMPORTANT

Before diagnosing a problematic vehicle and attempting to perform an emergency regeneration, it is important to obtain a full diagnostics log and read out relevant measured value blocks.

## **NOTE**

- 1. The DPF will not regenerate if the engine management light is on, or there is a faulty EGR valve.
- 2. The ECU must be re-adapted when replacing the DPF and when topping up the fuel additive Eolys.
- 3. If the vehicle needs to be driven in order to perform a DPF service, a second person is needed for the function. One person should drive the vehicle while the other person observes the screen on the tool. Do not attempt to drive and observe the tool at the same time. This is dangerous and will pose a significant risk to your safety, as well as the safety of other motorists and pedestrians.

# 5.6 Steering Angle Sensor (SAS) Service

Steering Angle Sensor Calibration permanently stores the current steering wheel position as the straight-ahead position in the steering angle sensor EEPROM. Therefore, the front wheels and the steering wheel must be set exactly to the straight-ahead position before calibration. In addition, the vehicle identification number (VIN) is also read from the instrument cluster and stored permanently in the steering angle sensor EEPROM. On successful completion of calibration, the steering angle sensor fault memory is automatically cleared.

Calibration must always be carried out after the following operations:

- Steering wheel replacement.
- Steering angle sensor replacement.
- Any maintenance that involves opening the connector hub from the steering angle sensor to the column.
- Any maintenance or repair work on the steering linkage, steering gear or, other related mechanism.
- Wheel alignment or wheel track adjustment.
- Accident repairs where damage to the steering angle sensor, SAS assembly, or any part of the steering system may have occurred.

## NOTE

- 1. Autel accepts no responsibility for any accident or injury arising from servicing the SAS system. When interpreting DTCs retrieved from the vehicle, always follow the manufacturer's recommendation for repair.
- 2. All software screens shown in this manual are examples, actual test screens may vary by test vehicle. Pay attention to the menu titles and the on-screen instructions to make correct selections.
- 3. Before starting any procedure, make sure vehicle has an ESC button. Look for the buttons on the dash.

# 6 Data Manager

The Data Manager application allows you to store, print, and review the saved files, manage the workshop information, and keep test vehicle records.

Selecting the **Data Manager** application opens the file system menu. There are seven main functions available.



Figure 6-1 Data Manager Screen

Button	Name	Description		
	Test Records	Tap to review the test vehicle history records.		
<b>E</b>	Workshop Information	Tap to edit the information of workshops.		
£	Image	Tap to review the screenshots.		
Z	PDF	Tap to review the reports stored as PDF format.		
Ĭ	Report	Tap to view the local reports on your tool. If the report is successfully uploaded to cloud, you can also share the report with others.		
Ê	Remove Vehicle	Tap to uninstall vehicles.		
	Data Logging	Tap to review the communication data and ECU information of the test vehicle. The saved data can be reported and sent to the technical center via the Internet.		

## Table 6-1 Buttons in Data Manager

# 6.1 Test Records

This function stores the test vehicle records during diagnostics or service functions. All test information, including the vehicle information and the retrieved DTCs from the previous diagnostics sessions, is summarized and will be displayed in an easy-to-read table listing, from which you can tap one to access to the previously tested vehicle and directly restart a diagnostics session without the need for auto scan or manual vehicle selection.



Figure 6-2 Test Records Screen

- > To activate a test session for the recorded vehicle
  - 1. Tap **Data Manager** on the Job Menu.
  - 2. Select **Test Records** to open the screen. Tap the relevant application tab to select the test record. For example, tap **Diagnostics** to select the test records.
  - 3. Tap the **Diagnostics** icon on the right side of the thumbnail of a vehicle record item. The Diagnostics screen displays and a new diagnostics session is activated. See *Diagnostics* to continue the diagnostics. Or
  - 4. Select a vehicle thumbnail to open a record. A History screen displays. Review the recorded information of the test vehicle. Tap the **Diagnostics** icon on the upper-right corner.

# 6.2 Workshop Information

The Workshop Information form allows you to edit, input, and save the detailed workshop information, such as shop name, address, phone number, and other remarks, which, when printing vehicle diagnostics reports and other associated test file, will display as the header of the printed documents.

der	Workshop	Logo	
+	+	+	
Worksho	p Name:		
Address			
State/Province:			
City:			
Zip code:			
Tel:			
Fax:			
Email:			
Website:			

Figure 6-3 Workshop Information Screen

- > To edit the Workshop Information sheet
  - 1. Tap the **Data Manager** application on the Job Menu.
  - 2. Select Workshop Information.
  - 3. Tap on each field to enter the appropriate information.
  - 4. Tap the **Back** button on the top-left corner to save the workshop information sheet.

The Image section is a PNG database containing all captured screenshots.



Figure 6-4 Image Screen

### To edit/delete image(s)

- 1. Tap the **Data Manager** application on the Job Menu.
- 2. Select Image to access the PNG database.
- Tap Edit on the top-right corner of the screen. The editing screen displays. Select the image(s) you want to edit by tapping the check box at the bottomright corner of the image or tap the Select All button to select all images. Then tap the Delete button at the bottom to delete the selected image(s). Tap Cancel to exit without saving.
- 4. You can also directly tap the image you want to edit. Tap the **Delete** button at the bottom to delete the selected image, tap **Details** to view the file path of the image, tap **Send Email** to send the selected image to an email address, tap **Print** to print the selected image, or tap **Rename** to make a new name for the image.

# 6.4 PDF

The PDF files designated for local viewing are displayed in this section. After entering the PDF database, select a PDF file to view the stored information.

#### > To view, share, and print the PDF files

- 1. Tap the Data Manager application on the Job Menu.
- 2. Select **PDF** to enter the PDF database.
- 3. Select the PDF file you need from the list, and then the detailed information will be displayed.



Figure 6-5 PDF Screen 1

- 4. In addition to viewing the PDF file, you have the option to share it with others or print it out.
  - To share the PDF file with others, tap the **Overflow** button .... on the upper-right corner of the screen, then select **Share to** and enter the recipient's email address. Once everything is ready, tap **Send**.
  - To print it out, tap the **Overflow** button ••• on the upper-right corner of the screen, then select **PC Print**. You have two printing methods to choose from: **Print via PC-Link** and **Print via Wi-Fi**. Select the method that best suits your needs. See *Printer Manager* for detailed information.

< PDF P	PDF Preview		
Tert Tert Ernal: Address:	City	Share to	
		PC Print	
Benz VEHICLE DIAGNOSTIC REP	PORT		
Vehicle Information Invariant 22.056 × E 300 Bedan Vic: Internet Futh: Automatic selection + Diagnosis + Auto cosh +	Odometer Reading, 131844 License Plate: menum	en.	
Status report			
System name	DTC counts	Status	
ECM(Engine Control Unit)	•	Fealt	
TCM(Transmission Control Unit)	0	Pass	
ESP(Electronic Stability Program Braking System)		Pasa	
SRS(Supplemental Restraint System Control Unit)	۰	Pass	
K3(Instrument Cluster)	1	Peult	
TPM(Tire Pressure Monitor Control Unit)	•	Pass	
PTS(Parking System)	0	Pass	
SAMF(Front Signal Acquisition Control Unit)	1	Fault	
SAMP(Rear Signal Acquisition Control Unit)	1	Feat	
EZS(Electronic Ignition Look Control Unit)	۰	Pass	
ES(Electric Power Steering)	۰	Pass	
KLA(Air Conditioner Control Unit)	٥	Pasa	
ADS(Suspension)	۰	Pasa	
HU(Head Unit Control Unit)	•	Pass	
ena a di con Unito y		Page1	
Berzy712.055 - E251 Sedan Diagnostics fine	2024-12-24 0K 2K 2N Te	port ID: MAGE#20041224062428	
ISM(Geer Shift Control Unit)	•	Pass	

Figure 6-6 PDF Screen 2

# 6.5 Report

This section stores and displays all reports. The reports stored in this area will be uploaded to the Autel cloud automatically when you set the Report Upload to Cloud option in the Settings application to **ON**.



Figure 6-7 Report List Screen

## > To view the local reports

- 1. Tap the **Data Manager** application on the Job Menu.
- 2. Select Report to access the report list.
- 3. Select the report you need from the list.
- 4. A pop-up screen will appear. Select the View Local Reports option.



Figure 6-8 View and Share Report Screen

- 5. The report with detailed information will be displayed.
- > To share the cloud report
  - 1. Tap the **Data Manager** application on the Job Menu.
  - 2. Select Report to access the report list.
  - 3. Select the report you need from the list.
  - 4. A pop-up screen will appear. Select the Report Cloud Sharing option.

## 

Note that if the report displays  $\bigcirc$ , it means the report has been uploaded to the cloud successfully, and you can share the report with others; if the report displays  $\bigcirc$ , it means the report has failed to upload to the cloud, but will try to automatically upload to the cloud when entering the report again.

5. There are three ways for report cloud sharing: scan the QR code, send by email, or send by SMS (via phone number).

# 6.6 Remove Vehicle

This section allows you to manage the vehicles installed on the MaxiDiag diagnostics system. Selecting this section opens a managing screen, on which you can check all available vehicle applications.

Tap the **Edit** button on the upper-right corner of the screen. Select the vehicle software you want to delete by checking the box, and the selected item will display a blue mark. Tap the **Delete** button at the bottom of the screen to delete the software from the system database.



Figure 6-9 Remove Vehicle Screen

# 6.7 Data Logging

The Data Logging screen keeps records of all **Feedback** (submitted), **No feedback** (saved) and **History** (up to the latest 20 test records) data on the diagnostics system. Autel support personnel will receive and process the submitted reports through the Support platform, and will send back solutions to the corresponding Data Logging session, on which you are also allowed to have a direct conversation with the support personnel.



Figure 6-10 Data Logging Screen

- > To make a reply in a Data Logging session
  - 1. Tap on the **Feedback** tag to view the list of submitted data loggings.
  - 2. Select a specific item to view the latest update of the processing progress.
  - 3. Tap on the input field at the bottom of the screen and enter your reply, or tap the **Audio** button to record a voice message or the **Camera** button to take a screenshot.
  - 4. Tap Send to deliver your message to Autel support.

# 7 VCI Manager

The application enables the pairing of the MaxiDiag tool with the MaxiVCI V150 Lite, the communication status checking, and VCI firmware upgrades.

< 1	NCI Ma	anager	Scan	
	Bluetooth	Firmwa	re Upgrade	]–①
	VCI not c	onnected		
	-6	3—	VCI	
Device	s			ן
<b>BT</b> 1))	Maxi-CFJV0000	0100	Unpaired	
<b>BT</b> J))	Maxi-CBJVN3C	01001	Unpaired	-2
87))	Maxi-CXK10000	00024	Unpaired	
BT))	Maxi-CBJVN4C	01489	Unpaired	

Figure 7-1 VCI Manager Screen

- 1. Function Buttons
  - Bluetooth pairs the MaxiDiag tool with the MaxiVCI V150 Lite via Bluetooth.
  - Firmware Upgrade pairs the MaxiDiag tool with the MaxiVCI V150 Lite via Bluetooth for firmware updates.
- 2. Available Devices List

After entering the VCI Manager screen, the MaxiDiag tool will search for available devices. The found devices will be displayed in this area. Select the needed one to initiate pairing.

# 7.1 VCI Bluetooth Pairing

The MaxiVCI V150 Lite needs to be connected to a vehicle, so that it is powered during the synchronization procedure. Turn the vehicle's ignition to the **ON** position. Ensure the MaxiDiag tool has sufficient battery power or is connected to an external power supply.

Refer to Bluetooth Connection for detailed information.

# 7.2 VCI Firmware Upgrade

Upgrading the VCI firmware enhances the overall performance of the MaxiDiag tool, bringing improved speed and functionality. Firmware upgrades can be performed through a Bluetooth connection.

## > To upgrade the MaxiVCI V150 Lite firmware

- 1. Power on the MaxiDiag tool.
- 2. Insert the 16-pin vehicle data connector of the MaxiVCI V150 Lite to the vehicle data link connector (DLC). Make sure the vehicle's ignition is in the **ON** position.
- 3. Connect the MaxiVCI V150 Lite to the MaxiDiag tool via Bluetooth.
- 4. Tap the **VCI Manager** application from the Job Menu.
- 5. Select **Firmware Upgrade**, and tap **Check for Firmware Updates** to check if an upgrade for MaxiVCI V150 Lite is available.
- 6. Complete the upgrade if one is available to ensure that you have the latest version installed.

## **NOTE**

Before upgrading the VCI firmware, make sure the MaxiDiag tool has a stable network.

# 8 Settings

Access the Settings menu to adjust default settings and view information about the MaxiDiag system. The following options are available for the MaxiDiag system settings:

- BAS Manager
- OBFCM Upload
- Laws and Regulations
- System Settings
- New User Guide Reset
- Printer Manager
- Upload Report to Cloud
- Unit
- About

# 8.1 BAS Manager

This option enables the pairing of the MaxiDiag tool with the MaxiBAS BT506 Battery Tester, the communication status checking, and firmware upgrades. See *Connect the Battery Tester* for the detailed connection process.

- > To upgrade the battery tester's firmware
  - 1. Power on the MaxiDiag tool and the BT506 battery tester.
  - 2. Connect the battery tester to the MaxiDiag tool via Bluetooth.
  - 3. Tap the **Settings** application button on the MaxiDiag Job Menu, and select **BAS Manager**.
  - 4. Select **Firmware Upgrade**, and tap **Check for Firmware Updates** to check if an upgrade for the battery tester is available.

# 8.2 **OBFCM** Upload

This option allows you to upload the carbon dioxide emissions-related data (OBFCM data) of passenger vehicles and light commercial vehicles to the monitoring background of the European country.

Toggle the button to ON to enable this function, and then select the corresponding

country and fill in the OBFCM monitoring server address. When the setting is completed, select the EOBD software in the Diagnostics application. After reading the OBFCM data in Vehicle information, the data can be sent to the monitoring server in the corresponding country.

## 🖉 ΝΟΤΕ

Do not enable this function in non-European countries or when the OBFCM monitoring data does not need to be submitted.

# 8.3 Laws and Regulations

To ensure the protection of the rights and interests of both software developers and users, we have provided a list of legal terms and statements. Please read them carefully before using Autel software.

# 8.4 System Settings

This function provides you with direct access to the System Settings screen, where you can adjust various system settings for the tool, including wireless and network settings, sound, display, and language settings.

# 8.5 New User Guide Reset

By selecting this option, you can restart the new user operating guides, providing you with concise step-by-step guidance when necessary.

# 8.6 Printer Manager

The Printer Manager function enables you to switch the way for report printing. There are two printing methods available:

- Print via PC-Link
- Print via Wi-Fi

## 8.6.1 Print via PC-Link

If you select the **Print via PC-Link** option, you need to install the PC Link driver program on your PC.

- To install the PC Link driver program
  - 1. Download the Maxi PC Suite software from www.autel.com > Support >

Downloads > Autel Update Tools, and install it to your windows-based PC.

- 2. Double click on the **Setup.exe** item.
- 3. Select the installation language and the wizard will load momentarily.
- 4. Follow the instructions on the screen and click **Next** to continue.
- 5. Click on Install and the printer driver program will be installed onto the PC.
- 6. Click on Finish to complete the installation.

## 

The MaxiSys Printer tab is selected by default after the installation. The PC, printer, and the MaxiDiag tool must be connected to the same network.

## > To print via the PC Link driver program

- 1. Make sure the printing method is changed to **Print via PC-Link**.
- 2. Run the PC Link program on the PC.
- 3. Select the MaxiSys Printer tab on the PC Link program.
- Open the PDF file or the local report you wish to print. Tap the **Overflow** button
   on the upper-right corner of the screen, then select **PC Print**. A test document will be sent to the PC.
  - ♦ If the Auto Print option in the MaxiSys Printer is selected, the MaxiSys Printer will print the received document automatically.
  - If the Auto Print option is not selected, click Open PDF File to view all the temporary files. Select the file(s) needed for printing, then tap Print.

## 🖉 NOTE

To confirm that the printer is functioning normally, click **Test Print** on the PC Link program to test.

## 8.6.2 Print via Wi-Fi

Before selecting **Print via Wi-Fi**, ensure that you have a wireless printer. Additionally, make sure that both the wireless printer and the MaxiDiag tool are using the same network.

## > To print using a wireless printer over Wi-Fi

- 1. Make sure the printing method is changed to Print via Wi-Fi.
- 2. Open the PDF file or the local report you wish to print.
- 3. Tap the **Overflow** button •••• on the upper-right corner of the screen, then select **PC Print**.
- 4. The MaxiDiag tool will search for available printers.

5. Select the printer from the list, and the file will be automatically sent to the printer for printing.

## **NOTE**

The printer and the MaxiDiag tool must be using the same network.

# 8.7 Upload Report to Cloud

This option automatically synchronizes the diagnostics information of the vehicle to the vehicle history and forms a diagnostic report for the user to upload. Toggle the **ON/OFF** button to enable/disable the Report Upload to Cloud function. The button appears blue if the function is enabled and displays gray if the function is disabled. See *Report* for detailed information.

## **NOTE**

Make sure the tool is connected to the Internet while uploading reports.

# 8.8 Unit

This option allows you to adjust the measurement unit for the diagnostics system.

## To adjust the unit setting

- 1. Tap the **Settings** application on the Job Menu.
- 2. Tap the Unit option.
- 3. Select the appropriate measurement unit. A check icon will display to the right of the selected unit.
- 4. Tap the **Home** button on the top-left corner to return to the Job Menu, or tap **Back** button to select another option to adjust.

# 8.9 About

This option provides detailed information about the MaxiDiag tool, including the serial number, password, system version, hardware version, app version, and other relevant details.

### > To check the MaxiDiag product information in About

- 1. Tap the **Settings** application on the Job Menu.
- 2. Tap the **About** option on the left column. The product information screen displays on the right.
- 3. Tap the Home button on the top-left corner to return to the Job Menu, or tap the

Back button to select another option to adjust.

# 9 Update

The Update application on the tool downloads the latest version of the software. The updates improve the MaxiDiag applications' capabilities, typically by adding new tests, new models, or by adding new or enhanced applications.

The tool automatically searches for available updates for all of the MaxiDiag software when it is connected to a network. Any updates that are found can be downloaded and installed on the tool.

## 

Ensure the tool is registered before utilizing the Update application. See *Autel User Center* for a comprehensive registration guide.

### To update the software

- 1. Power up the tool, and ensure that it is connected to a power source and has a steady Internet connection.
- 2. Tap the **Update** application button from the MaxiDiag Job Menu. The Update application screen displays.
- 3. On the Update screen, tap the **Get** button to update the specific item(s) or tap the **Update All** button to update all available items.
- 4. Tap **More** to view the details of all the available updates. You can also tap the **Get** or **Update All** button for update.
- During the update, tap the 

   icon to suspend the updating process. Tap the
   icon to resume the update and the process will continue from the pause point.
- 6. When the updating process is completed, the software will be installed automatically. The new version will replace the older version.

## **NOTE**

For the account management, proceed to the Member Center tab.

# **10** Remote Desktop

The Remote Desktop application launches the TeamViewer QuickSupport program, which is a simple, fast, and secure remote-control interface. You can use the application to receive ad-hoc remote support from Autel's support center, colleagues, or friends, by allowing them to control your MaxiDiag tool on their PC via the TeamViewer software.

# 10.1 Operations

If you think of a TeamViewer connection as a phone call, the TeamViewer ID would be the phone number under which all TeamViewer Clients can be reached separately. Computers and mobile devices that run TeamViewer are identified by a unique global ID. The first time the Remote Desktop application is launched, this ID is generated automatically based on the hardware characteristics and will not change later on.

Make sure the MaxiDiag tool is connected to the Internet before launching the Remote Desktop application, so that the tool is able to receive remote support from a third party.



Figure 10-1 Remote Desktop Screen

## > To receive remote support from a partner

- 1. Power on the MaxiDiag tool.
- 2. Tap the **Remote Desktop** application on the Job Menu. The TeamViewer interface displays and the ID is generated and shown.
- Your partner must install the Remote Control software to his/her PC by downloading the TeamViewer program (full version) online (see <u>http://www.teamviewer.com</u>), and then launch the software.
- 4. Provide your ID to your partner and wait for him/her to send you a remote-control request.
- 5. A prompt will appear asking you to allow remote control on your tool.
- 6. Tap **Allow** to accept, or tap **Deny** to reject.

Refer to the associated TeamViewer documents for additional information.

# **11** Autel User Center

Software updates are available for free for the first year from the date of purchase. The Autel User Center application allows you to register your tool to download the latest released software, thereby enhancing the functionality of the MaxiDiag application by adding new vehicle models or enhanced applications to the database.

There are two ways for product registration:

## A. Register via the MaxiDiag tool

### > To log in with your account and register your tool

1. Tap Autel User Center from the Job Menu. The following screen displays.



Figure 11-1 Autel User Center Screen

2. If you already have an Autel account, tap the blue bar or tap **Log In with Other Account** to log in with your phone number (or email) and password. If you don't have an Autel account yet, tap **Register** to create one.

<	Log In	Register			
F	AUTEL	-			
Enter phone r	umber or email				
Enter passwo	rd	5,~*			
	Forgot Password				
	Log In				
Log In	Log In with Verification Code				
Log	Log in with linked account				
	•				

Figure 11-2 Log In Screen

- 3. After successfully logging in to your account, you will enter the main menu of the Autel User Center.
- 4. Select **Device Management** on the main menu.
- 5. Tap the **Link Device** button on the Device Management screen. The serial number and password of the tool will automatically appear on the screen.
- 6. Tap the **Link** button to complete the product registration.

### B. Register via the Autel website

### To register the MaxiDiag tool

- 1. Visit the website: pro.autel.com.
- 2. If you have an Autel account, sign in with your account ID and password and skip to step 7.
- 3. If you are a new member to Autel, click the **Register** button to create your Autel ID.
- 4. Enter the required personal information in the input fields.
- 5. Enter your email address, then click **Request**. You will receive an email from Autel with your verification code. Open the email and copy the code into the proper input box.
- 6. Set a password for your account, and enter the password again to confirm. Read the **Autel User Service Agreement** and **Autel Privacy Policy**, then

check the box to accept the terms. After all the information is entered, click **Register**. A Product Registration screen will appear.

- Your product serial number and password are required to complete your registration. To find your serial number and password on the tool: go to Settings > About.
- 8. Enter your tool's serial number and password on the Product Registration screen. Enter the CAPTCHA code and click **Submit** to complete your registration procedure.

# **12** Battery Test

The BT506 is a battery and electrical system analysis tool that uses Adaptive Conductance, an advanced battery analysis method, to produce a more accurate examination of the battery's cold cranking ability and reserve capacity, vital to determining a battery's true health. The BT506 battery tester enables technicians to view the health status of the vehicle's battery and electrical system. Together with the BT506, this application can complete battery & starting, and charging system tests and display the test results.

## ⊘ NOTE

The MaxiBAS BT506 battery tester should be purchased separately.

# 12.1 MaxiBAS BT506 Battery Tester

# 12.1.1 Function Description



Figure 12-1 MaxiBAS BT506 Battery Tester

- 1. Power Button
- 2. Status LED
- 3. Power LED
- 4. USB Port
- 5. Battery Clamp Cable
#### Table 12-1 LED Description

LED	Color	Description	
	Flashing Green	The tester is communicating via USB cable.	
Status LED	Flashing Blue	The tester is communicating via Bluetooth.	
	Flashing Red	Battery clamps are connected to the wrong battery terminals.	
	Solid Green	The tester is powered on and the battery is sufficiently charged.	
Power LED	Flashing Green	The tester is charging. (Turns solid green when battery is fully charged.)	
	Solid Red	The device is in boot mode.	
	Flashing Red	The battery level is low. Please charge.	

## 12.1.2 Power Sources

The BT506 battery tester can receive power from the following sources:

- Internal Battery Pack
- AC/DC Power Supply

#### **IMPORTANT**

Do not charge the tester when the temperature is below 0 °C (32 °F) or above 45 °C (113 °F).

#### 12.1.2.1 Internal Battery Pack

The BT506 battery tester can be powered with its internal rechargeable battery.

#### 12.1.2.2 AC/DC Power Supply — Using Power Adapter

The BT506 battery tester can be powered from an electrical outlet using the AC/DC power adapter. The AC/DC power supply also charges the internal battery pack.

# 12.1.3 Technical Specifications

Item	Description	
Connectivity	<ul><li>USB 2.0, Type C</li><li>Bluetooth 4.2</li></ul>	
Input Voltage	5 V DC	
Working Current	< 150 mA at 12 V DC	
Internal Battery	3.7 V/800 mAh lithium-ion polymer battery	
CCA Range	100 to 2000 A	
Voltage Range	1.5 to 16 V	
<b>Working Temp.</b> −10 °C to 50 °C (14 °F to 122 °F)		
Storage Temp.	–20 °C to 60 °C (–4 °F to 140 °F)	
Dimension	107 mm (4.21") x 75 mm (2.95") x 26 mm (1.02")	
(L x W x H)	(clamp cable not included)	
Weight	320 g (0.7 lb.)	

Table 12-2 Technical Specifications

# **12.2 Test Preparation**

# 12.2.1 Inspect the Battery

Before starting a test, inspect the battery for:

- Cracking, buckling or leaking (If you see any of these defects, replace the battery.)
- Corroded, loose or damaged cables and connections (Repair or replace as needed.)
- Corrosion on the battery terminals, and dirt or acid on the case top (Clean the case and terminals using a wire brush and a mixture of water and baking soda.)

# 12.2.2 Connect the Battery Tester

- > To connect BT506 with the MaxiDiag tool
  - 1. Turn on both BT506 and the MaxiDiag tool.
  - 2. Tap the **Settings** application button on the MaxiDiag Job Menu, and select **BAS** Manager.

- 3. Tap **Scan** at the upper-right corner of the tablet's screen.
- 4. The device name may display as "Maxi" suffixed with a serial number. Select the appropriate device for pairing.
- 5. When paired successfully, the connection status displays the device name with the message "Paired."

#### > To connect to a battery

- 1. Press and hold the **Power/Lock** button to turn on the BT506 tester.
- 2. Connect the red clamp to the positive (+) terminal and the black clamp to the negative (–) terminal of the battery.



Figure 12-2 Connecting to a Battery

# 12.3 In-vehicle Test

In-vehicle Test is used for testing batteries that are installed in a vehicle. An in-vehicle test includes battery test, starter test, and generator test. These tests help determine the health status of the battery, the starter, and the generator, respectively.

### **NOTE**

The complete in-vehicle test includes battery test, starter test, and generator test, in sequence.

### IMPORTANT

- 1. Before using the diagnostic functions, download the desired vehicle software on the Update application.
- A Disclaimer page will appear when accessing any function on the Battery Test screen for the first time. Please read the end user agreement and tap Accept to continue. If you tap Decline, you will not be able to use the features properly.



Figure 12-3 Disclaimer Screen

## 12.3.1 Battery Test

- > To perform the in-vehicle battery test
  - 1. Tap the **Battery Test** application button on the MaxiDiag Job Menu. The Battery Test screen displays.
  - 2. Select In-vehicle Test.



Figure 12-4 Battery Test Screen

3. Perform OBD connection by following the on-screen instructions.



#### Figure 12-5 OBD Connect Screen

4. Confirm the vehicle information. The vehicle information will be automatically populated when vehicle communication is established. A Battery Information tab will pop up from the bottom of the screen.

<	Veh	icle in	forma	tion	vci	12.0
License						•
* VIN						•
Make						>
Year						>
Model						>
Others	None					>
Туре	9	Stan	dard		Rating	
AGN	N	CC	A	Q	650	
Batte	ry locati	on		Ne	xt	

Figure 12-6 Vehicle Information Screen

Table 12-3	Upper	Toolbar	Buttons
------------	-------	---------	---------

Button	Name	Description	
<	Back	Returns to the previous screen.	
	ESC Returns to the Home screen.		
12.3	Battery Connection	Displays the battery connection status. The number on the icon indicates the real-time voltage of the tested battery.	

5. Tap **Next** and access to the Battery screen. Perform required operations before the battery test based on the on-screen instructions. And tap the **Start Testing** button.

<	•	Battery	vđ	3.0
	4	â		
Ope	erations needec	I before battery test		
1.Ti	urn off electric	cal appliances.		
2.Ig	nition OFF.			
3.C	lose all the ve	hicle doors.		
		Start Testing		

Figure 12-7 Battery Screen

6. Wait for the battery test to complete and view the test results and suggestions.

< 🕩	Battery	vel 📫			
× •					
Bad co	Bad cell. Replace battery				
	 SOH				
SOC		0%			
Voltage		3.01 V			
Measured -					
Report		Continue			

Figure 12-8 Battery Results Screen

#### Table 12-4 Test Results

Result	Description
Good Battery	Battery is good.
Good & Recharge	Battery is good but insufficiently charged. Recharge the battery.
Charge & Retest	Battery requires charge to determine its condition.
Bad Cell	Replace the battery.
Replace Battery	Replace the battery.

## 12.3.2 Starter Test

#### > To perform the starter test

- 1. Tap **Continue**. Perform required operations before the battery test based on the on-screen instructions. And tap the **Start Testing** button.
- 2. Start the engine and let it idle.



Figure 12-9 Starter Screen

3. Wait for the test to complete and view the test results.

< 🕩	Starter	ve 💌
× •		
Volta	ige too low	
Starting voltage	8.99	• v •
Starting current		•
Starting time	1.94	s
Report	Continue	

Figure 12-10 Starter Test Results Screen

#### Table 12-5 Starter Test Results

Result	Description	
Cranking Normal	The starter is good.	
Current Too Low	Low momentary discharge capacity.	
Voltage Too Low	Low battery storage capacity.	
Not Started	The starter is not detected for starting.	

## 12.3.3 Generator Test

#### > To perform the generator test

- 1. Tap Continue. Perform required operations based on the on-screen instructions.
- 2. Tap **Continue** and view the test results.

<	•	Alternator	vci 💌
	40		
		No output	
Ripp	le		0 mV 🔻
No-lo	oad voltage		11.98 V 💌
Load	l voltage		11.84 V 🔻
No-lo	oad current		-
Load	l current		
	Report		Done

Figure 12-11 Generator Test Results Screen

Table 12-6	Generator	Test Results
------------	-----------	--------------

Result	Description
Charging Normal	The generator is good.
Output Too Low	<ul> <li>The belt linking the starter and the generator is loose.</li> <li>The cable linking the starter and battery is loose or corroded.</li> </ul>
Output Too High	<ul><li>The generator is not properly connected to the ground.</li><li>The voltage adjuster is broken and needs replacement.</li></ul>
Ripple Too Large	The commutation diode is broken and needs repair or replacement.
No Output	<ul> <li>The cable is loose.</li> <li>Some vehicles with power management systems do not provide a path for charging due to the sufficient load capacity of the battery.</li> <li>The generator or the voltage adjuster is broken and needs replacement.</li> </ul>

# 12.4 Out-vehicle Test

Out-vehicle test is used to test the condition of batteries that are not connected to a vehicle. This function aims to check the health status of the battery only. The battery types and standards able to be tested are as follows.

**Types:** FLOODED, AGM, AGM SPIRAL, EFB, and GEL **Standards:** CCA, SAE, CA, EN, IEC, DIN, JIS and MCA

# 12.4.1 Battery Test

- > To perform the out-vehicle battery test
  - 1. Tap the **Battery Test** application button on the MaxiDiag Job Menu. The Battery Test screen displays.
  - 2. Select Out-of-vehicle Test.
  - 3. Check the battery information and tap Start Testing.



Figure 12-12 Out-vehicle Test Screen

4. Wait for the battery test to complete and view the test results.

< 🕩	Out-vehicle test	vel 💟	
Good & Recharge			
	<b>100%</b> SOH	<b>&gt;</b>	
SOC		22%	
Voltage		11.98 V	
Measured		249 CCA	
Rating		100 CCA	
Temperature		24 °C	
	Report		

Figure 12-13 Out-vehicle Test Results Screen

Table 12-7	Out-vehicle	<b>Test Results</b>
------------	-------------	---------------------

Result	Description
Good Battery	Battery meets required standards.
Good & Recharge	Battery is good, but low on charge. Fully charge the battery. Check for causes of low charge.
Charge & Retest	Retest after charging.
Replace Battery	Battery fails to meet industry-accepted standards.
Bad Cell	Battery fails to meet industry-accepted standards.

# **13** Maintenance and Service

To ensure that the tool and the combined VCI device perform at their optimum level, we advise that the maintenance instructions in this section are strictly followed.

# **13.1 Maintenance Instructions**

The following includes how to maintain your devices, together with precautions to take.

- Use a soft cloth dampened with alcohol or mild glass cleaner to clean the tool's touchscreen at the end of each work day.
- Do not use any abrasive cleansers, detergent, or automotive chemicals on the tool.
- Keep the devices in dry conditions and within specified operating temperatures.
- Dry your hands before using the tool. The touchscreen of the tool may not work when it is moist, or when you tap the touchscreen with wet hands.
- Do not store the devices in humid, dusty or dirty areas.
- Check the housing, wiring, and connectors for dirt and damage before and after each use.
- Do not attempt to disassemble your tool or the VCI device.
- Do not drop or cause severe impact to the devices.
- Use only authorized battery chargers and accessories. Any malfunction or damage caused by the use of unauthorized battery charger or accessories will void the limited product warranty.
- Ensure that the battery charger does not contact conductive objects.
- Do not use the tool beside microwave ovens, cordless phones and certain medical or scientific instruments to prevent signal interference.

# **13.2 Troubleshooting Checklist**

- A. When the tool does not work properly:
  - Make sure the tool has been registered online.
  - Make sure the system software and diagnostic application are properly updated.
  - Make sure the tool is connected to the Internet.
  - Check all cables, connections, and indicators to see if the signal is being received.

- B. When battery life is shorter than usual:
  - This may happen when you are in an area with low signal strength. Turn off your device if it is not in use.
- C. When you cannot turn on the tool:
  - Make sure the tool is connected to a power source or the battery is charged.
- D. When you are unable to charge the tool:
  - Your charger maybe out of order. Contact your nearest dealer.
  - You may be attempting to use the device in an overly hot/cold temperature. Charge the device in a temperate area.
  - Your device may not be connected to the charger properly. Check the connector.

## 

If the problems persist, please contact Autel's technical support or your local selling agent.

# 13.3 About Battery Usage

Your tool is powered by a built-in lithium-ion polymer battery, which enables you to recharge your battery when there is electricity left.

## 

The built-in lithium-ion polymer battery is factory-replaceable only; incorrect replacement or tampering with the battery pack may cause an explosion.

- Do not use a damaged battery charger.
- Do not disassemble, open, crush, bend, deform, puncture, or shred the battery.
- Do not modify, remanufacture or attempt to insert foreign objects into the battery, or expose the battery to fire, explosion, or other hazards.
- Only use the specified charger and USB cables. Use of non-Autel-authorized charger or USB cables may lead to device malfunction or failure.
- Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazards.
- Avoid dropping the tool. If the tool is dropped, especially on a hard surface, and you suspect damage, take the tool to a service center for inspection.
- Try to keep closer to your wireless router to reduce battery usage.
- The time needed to recharge the battery varies depending on the remaining battery capacity.
- Battery life inevitably shortens over time.

- Unplug the charger once the tool is fully charged since overcharging may shorten battery life.
- Keep the battery in temperate environments. Do not place it inside a vehicle when it is too hot or too cold, which may reduce the capacity and life of the battery.

# **13.4 Service Procedures**

This section provides information on technical support, repair service, and application for replacement or optional parts.

# 13.4.1 Technical Support

If you have any question or problem on product operations, please contact us.

#### **Autel China Headquarters**

- Phone: +86 (0755) 8614-7779 (Monday-Friday, 9AM-6PM Beijing Time)
- Email: <u>support@autel.com</u>
- Address: Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China
- Web: <u>www.autel.com</u>

#### Autel North America

- Phone: 1-855-288-3587 (Monday-Friday, 9AM-6PM Eastern Time)
- Email: <u>ussupport@autel.com</u>
- Address: 36 Harbor Park Drive, Port Washington, New York, USA 11050
- Web: <u>www.autel.com/us</u>

#### Autel Europe

- Phone: +49(0)89 540299608 (Monday-Friday, 9AM-6PM Berlin Time)
- Email: <u>support.eu@autel.com</u>
- Address: Landsberger Str. 408, 81241 München, Germany
- Web: <u>www.autel.eu</u>

#### Autel APAC

#### Japan:

- **Phone:** +81-045-548-6282
- Email: <u>support.jp@autel.com</u>

- Address: 6th Floor, Ari-nadoribiru 3-7-7, Shinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa-ken, 222-0033 Japan
- Web: <u>www.autel.com/jp</u>

#### Australia:

- Email: ausupport@autel.com
- Address: Unit 5, 25 Veronica Street, Capalaba

#### Autel IMEA

- **Phone:** +971 585 002709 (in UAE)
- Email: imea-support@autel.com
- Address: 906-17, Preatoni Tower (Cluster L), Jumeirah Lakes Tower, DMCC, Dubai, UAE
- Web: <u>www.autel.com</u>

#### Autel Latin America

#### Mexico:

- Phone: +52 33 1001 7880 (Spanish in Mexico)
- Email: <u>latsupport@autel.com</u>
- Address: Avenida Americas 1905, 6B, Colonia Aldrete, Guadalajara, Jalisco, Mexico

#### Brazil:

- Email: <u>brsupport@autel.com</u>
- Address: Avenida José de Souza Campos n° 900, sala 32 Nova Campinas Campinas – SP, Brazil
- Web: <u>www.autel.com/br</u>

## 13.4.2 Repair Service

If it is necessary to send back your device for repair, please download and fill out the repair service form from <u>www.autel.com</u>. The following information must be included:

- Contact name
- Return address
- Telephone number
- Product name

- Complete description of the problem
- Proof-of-purchase for warranty repairs
- Preferred method of payment for non-warranty repairs

#### **NOTE**

For non-warranty repairs, payment can be made with Visa, Master Card, or with approved credit terms.

#### Send the device to your local agent, or to the address below:

Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China

## 13.4.3 Other Services

You can purchase the accessories directly from authorized tool suppliers of Autel, or your local distributor or agent.

Your purchase order should include the following information:

- Contact information
- Product or part name
- Item description
- Purchase quantity

# **14** Compliance Information

#### **FCC Compliance**

#### FCC ID: WQ8-DV2411

NOTE: 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, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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:

- Reorient 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### FCC RF Exposure Requirements

This equipment has been tested for SAR compliance. This equipment should be installed and operated with minimum distance 5 mm between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

#### IC Warning

#### IC: 10826A-DV2411

This device contains licence-exempt transmitter(s)/receiver(s) that comply with

Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) L' appareil ne doit pas produire de brouillage;

(2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.

#### SAR Statement

This EUT is compliance with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEC/IEEE 62209-1528. This equipment should be installed and operated with minimum distance 5 mm between the radiator and your body. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet EUT est conforme aux limites d'exposition SAR pour la population générale/non contrôlée de l'IC RSS-102 et a été testé conformément aux méthodes et procédures de mesure spécifiées dans la norme IEC/IEEE 62209-1528. Cet équipement doit être installé et utilisé à une distance minimale de 5 mm entre le radiateur et votre corps. Cet appareil et ses antennes ne doivent pas être situés ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

Operation of this device is restricted to indoor use only. (5150-5250MHz)

Le fonctionnement de cet appareil est limité à une utilisation en intérieur uniquement. (5150-5250MHz)

#### **CE Compliance**

RED Directive 2014/53/EU.

#### **RoHS Compliance**

This device is declared to be in compliance with the European RoHS Directive 2011/65/EU.

# **15** Warranty

# **12-Month Limited Warranty**

Autel Intelligent Technology Corp., Ltd. (the Company) warrants to the original retail purchaser of this MaxiDiag tool that should this product or any part thereof during normal usage and conditions, be proven defective in material or workmanship and results in product failure within 1 year period from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with Proof of Purchase, at the Company's option, without charge for parts or labor directly related to the defect(s).

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If the warranty period is inconsistent with local laws and regulations, please comply with the relevant local laws and regulations.

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device. Some states do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty does not apply to:

- a) Products subjected to abnormal use or conditions, accident, mishandling, neglect, unauthorized alteration, misuse, improper installation or repair or improper storage;
- b) Products whose mechanical serial number or electronic serial number has been removed, altered or defaced;
- c) Damage from exposure to excessive temperatures or extreme environmental conditions;
- d) Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;
- e) Defects in appearance, cosmetic, decorative or structural items such as framing and non-operative parts.
- f) Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft or improper usage of any electrical source.

#### IMPORTANT

All contents of the product may be deleted during the process of repair. You should create a back-up copy of any contents of your product before delivering the product for warranty service.



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