1 Using This Manual AUTEL®



This manual contains device usage instructions.

Some illustrations shown in this manual may contain 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.

Conventions

The following conventions are used.

Bold Text

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

Tap OK.

Notes and Important Messages

Notes

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

Example:

NOTE

New batteries reach full capacity after approximately 3 to 5 charging and discharging cycles.

Important

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

Example:

IMPORTANT

Keep the cable away from heat, oil, sharp edges and moving parts. Replace damaged cables immediately.

Hyperlink

Hyperlinks, or links, that take you to other related articles, procedures, and illustrations are available in electronic documents. Blue italic text indicates a selectable hyperlink and blue underlined text indicates a website link or an email address link.

Illustrations

Illustrations used in this manual are samples, the actual testing screen may vary by test vehicle. Observe the menu titles and on-screen instructions to make correct option selection.

2 Using the Scan Tool

Tool Description

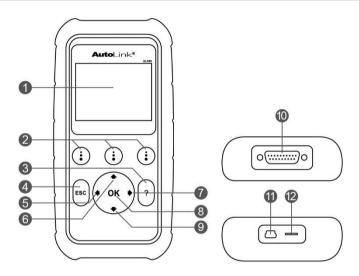


Figure 2-1 Sample Scan Tool View

- 1) LCD DISPLAY displays menus and test results.
- 2) **i FUNCTION BUTTONS** corresponds with "buttons" on screen for executing commands.
- 3) HELP BUTTON provides help information and Code Breaker function.
- 4) ESC BUTTON cancels a selection (or an action) from a menu or returns to the previous screen.
- 5) LEFT SCROLL BUTTON when look up DTC definitions, moves to previous character and views additional information on previous screens if DTC definition covers more than one screen; views previous screen or previous frames of recorded data. It is also used to view previous trouble code when viewing DTCs.
- The school of the

- moves up through the current screen to the previous screens for additional data. When looking up DTC, it is used to change value of selected character.
- 7) RIGHT SCROLL BUTTON when look up DTC definitions, moves to next character and view additional information on next screens if DTC definition covers more than one screen; views next screen or next frames of recorded data. It is also used to view next trouble code when viewing DTCs.
- 8) **OK BUTTON** confirms a selection (or action) from a menu.
- 9) DOWN SCROLL BUTTON moves down through menu and submenu items in menu mode. When more than one screen of data is retrieved, moves down through the current screen to next screens for additional data. When looking up DTC, it is used to change value of selected character.
- 10) **OBD II CONNECTOR** connects the scan tool to the vehicle's Data Link Connector (DLC).
- 11) **USB CONNECTOR** connects the scan tool to the PC for printing and upgrading.
- 12) TF CARD SLOT holds the TF card.

Specifications

Table 2-1 Specifications

Item	Description
Display	2.8-inch LCD (320 x 240 dpi)
Connectivity	USB mini 2.0
	OBD II DB15
Operating Temp.	-10°C to 60°C (14°F to 140°F)
Storage Temp.	-20°C to 70°C (-4°F to 158°F)
External Power	8.0 to 18.0 V power provided via vehicle battery
Dimensions (LxWxH)	182.8 mm (7.2") x 90.9 mm (3.6") x 33.2 mm (1.3")
Net Weight	247 g (0.544 lb.)

Accessories Included

- OBDII Cable provides power to tool and communicates between tool and vehicle.
- USB Cable used to upgrade the scan tool and to print retrieved data.
- TF Card used to store data.
- 4) User Manual instructions on tool operations.
- Quick Guide instructions on device connection and tool registration and update.

Keypad

No solvents such as alcohol are allowed to clean the keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth. Do not soak the keypad as it is not waterproof.

Power

The scan tool is powered via the vehicle Data Link Connector (DLC). Follow the steps below to turn on the scan tool:

- 1) Connect the OBD II Cable to the scan tool.
- 2) Find DLC on the vehicle.
 - A plastic DLC cover may be found for some vehicles and you need to remove it before plugging the OBDII cable.
- Plug OBD II cable to the vehicle's DLC.
- The scan tool will automatically power up and the Main Screen will appear.



Figure 2-2 Sample Main Screen

Vehicle Coverage

The AutoLink® AL629 OBDII/EOBD Scanner is specially designed to work with all OBD II compliant vehicles, including those equipped with next-generation protocol -- Control Area Network (CAN). It is required by EPA that all 1996 and newer vehicles (cars and light trucks) sold in the United States must be OBD II compliant and this includes all Domestic, Asian and European vehicles.

A small number of 1994 and 1995 model year gasoline vehicles are OBD II compliant. To verify if a 1994 or 1995 vehicle is OBD II compliant, check the Vehicle Emissions Control Information (VECI) Label which is located under the hood or by the radiator of most vehicles. If the vehicle is OBD II compliant, the label will designate "OBD II Certified". Additionally, Government regulations mandate that all OBD II compliant vehicles must have a "common" sixteen-pin Data Link Connector (DLC).

For your vehicle to be OBD II compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBD II compliant.

In addition to OBD II diagnosis, the AL629 scan tool also supports the ABS, SRS, Engine, and Transmission diagnosis functions, dealing with more than 50 US, Asian and European vehicles, including Acura, Audi, Bentley, Benz, BMW, Bugatti, Chrysler, Ford, EU Ford, GM, Honda, Hyundai, Infiniti, Isuzu, Jaguar, Kia, Land Rover, Lexus, Maybach, Mazda, Mini, Mitsubishi, Nissan, Opel, Porsche, Saab, Scion, Seat, Skoda, Smart, Sprinter, Suzuki,

Toyota, Vauxhall, Volvo, VW, Renault, Peugeot, Lancia, Fiat, Dacia, Citroen, Alfa. Abarth.

More vehicle supports will come out with new updates released.

Product Troubleshooting

This part describes problems that you may encounter while using the scan tool.

Vehicle Linking Error

A communication error occurs if the scan tool fails to communicate with the vehicle's ECU (Engine Control Unit). You need to do the following to check up:

- ✓ Verify that the ignition is ON.
- ✓ Check if the scan tool's OBD II connector is securely connected to the vehicle's DLC.
- ✓ Verify that the vehicle is OBDII compliant.
- ✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and continue the testing.
- ✓ Verify the control module is not defective.

Operating Error

If the scan tool freezes, then an exception occurs or the vehicle's ECU (Engine Control Unit) is too slow to respond to requests. You need to do the following to reset the tool:

- ✓ Reset the scan tool.
- ✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and continue the testing.

Scan tool doesn't power up

If the scan tool won't power up or operates incorrectly in any other way, you need to do the following to check up:

- Check if the scan tool's OBD II connector is securely connected to the vehicle's DLC:
- ✓ Check if the DLC pins are bent or broken. Clean the DLC pins if

necessary.

✓ Check vehicle battery to make sure it is still good with at least 8.0 volts.

⊘ NOTE

Avoid electrostatic interference during operation. If a failure occurs due to electrostatic interference, please try to operate again.

3 Scan

The AutoLink AL629 is a powerful OBDII scan tool that provide basic diagnosis and read and erase codes for four systems: ABS, SRS, engine, and transmission.

Before using this scan function, please follow the on-screen instructions for selections from vehicle manufacturer to model year to identify the vehicle being tested.

- 1. Turn the ignition on but do not start the engine.
- Locate the 16-pin OBDII diagnostic connector (usually under the dash near the steering column). Plug in the AL629 and wait for the Main Screen to appear.
- 3. Select Scan icon in the Main Screen Figure 2-2.
- Select a specific vehicle manufacture's regional coverage.

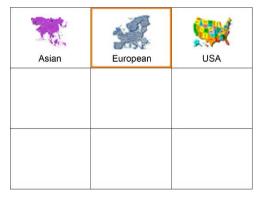


Figure 3-1 Sample Vehicle Manufacture Region Screen

5. From the vehicle make screen, select a specific vehicle manufacture and press **OK** button.

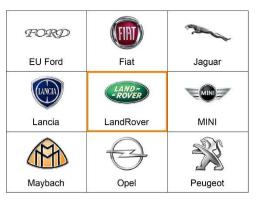


Figure 3-2 Sample Vehicle Manufacture Screen

6. Use the **UP/DOWN** scroll button to select the correct Vehicle **Model**, **Year**, and **Type** step-by-step. The steps may vary by test vehicles.

After all the selections are made, a vehicle information summary will pop up for your confirmation, press **Yes** to continue. The four systems will pop up for you to choose, the name of the system may vary by test vehicles.

ABS

An anti-lock braking system (ABS) is an automobile safety system that allows the wheels on a motor vehicle to maintain tractive contact with the road surface according to driver inputs while braking, preventing the wheels from locking up (ceasing rotation) and avoiding uncontrolled skidding. It is an automated system that uses the principles of threshold braking and cadence braking which were practiced by skillful drivers with previous generation braking systems. It does this at a much faster rate and with better control than many drivers could manage.

An ABS warning lamp that is on usually means trouble and you need to pull the code to figure out what is wrong. The AL629 provides convenient service to read and erase codes for the ABS.

Read Codes

Select ABS from the system list. The list may vary by test vehicles.

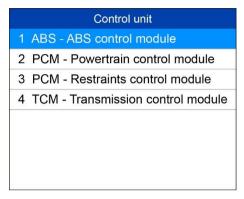


Figure 3-3 Sample System List

Select Read codes from the diagnostic function list. All the DTCs of the ABS control module are displayed. Press Save to save the data or press ESC to exit without saving.

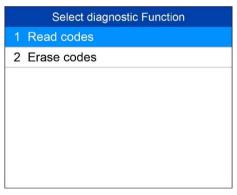


Figure 3-4 Sample Diagnostic Function Menu

For some trouble codes, you may press **OK** button to view detailed information of the trouble codes. When there is a **FDD** button on the right bottom of the screen, press the button to view the freeze frame data of the specific trouble code.



Figure 3-5 Sample ABS Trouble Codes Screen 1

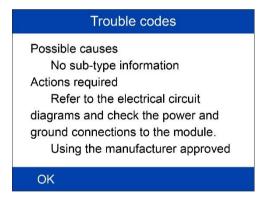


Figure 3-6 Sample ABS Trouble Codes Screen 2

- 1. Select Erase codes from the diagnostic function list (Figure 3-4).
- 2. Follow the on-screen instruction and make sure the ignition on and engine off. Press **Yes** to continue.

 A confirmation message "DTCs and freeze data will be deleted. Are you sure you want to continue?" will pop up to ask for your confirmation. Press Yes to continue.

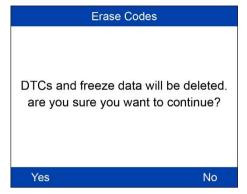


Figure 3-7 Sample Erase Codes Screen 1

4. Erase Codes command will be sent and you can perform Read Codes function to verify. Press any key to continue.



Figure 3-8 Sample Erase Codes Screen 2

✓ NOTE

For some test vehicles, the Erase Codes function is automatically performed after Read Codes function, follow the on-screen instructions to complete the service.

SRS

The purpose of the SRS light on your instrument panel is to alert you of a potential problem with your supplemental restraint system.

Use the AL629 to have the system checked if:

- The light does not come on when you turn the ignition ON.
- The light stays on after the engine starts.
- The light comes on or flashes while you are driving.

Read Codes

- 1. Select **SRS** or **Restraints control module** from the system list. The list may vary by test vehicles (*Figure 3-3*).
- 2. Select **Read codes** from the diagnostic function list (*Figure 3-4*).
- 3. All the DTCs of the SRS control module are displayed. Press **Save** to save the data or press **ESC** to exit without saving.

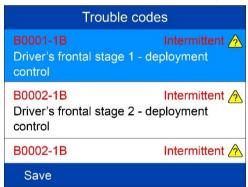


Figure 3-9 Sample SRS Trouble Codes Screen

- 1. Select **Erase codes** from the diagnostic function list (*Figure 3-4*).
- Follow the on-screen instruction and make sure the ignition on and engine off. Press Yes to continue.
- 3. A confirmation message "DTCs and freeze data will be deleted. Are you sure you want to continue?" will pop up to ask for your confirmation. Press **Yes** to continue.

4. Erase Codes command will be sent and you can perform Read Codes function to verify. Press any key to continue.

Engine

The "Malfunction Indicator Lamp" (or Check Engine Light) is supposed to come on when a problem occurs in the engine control system that affects emission. Depending on how the system is configured and the nature of the problem, the lamp may come on and go off, remain on continuously or flash. When this happens, the OBDII system sets one or more diagnostic trouble codes that correspond to the problem detected. AL629 is the scan tool that can help you read and clear codes for engine control system.

Read Codes

- Select Powertrain control module from the system list. The list may vary by test vehicles (Figure 3-3).
- Select Read codes from the diagnostic function list (Figure 3-4).
- All the DTCs of the Powertrain control module are displayed. Press OK
 or ? button to view detailed information of the trouble codes. Press
 Save to save the data or press ESC to exit without saving.

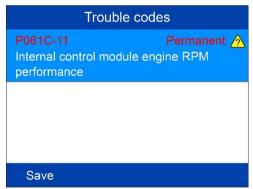


Figure 3-10 Sample Engine Trouble Codes Screen

- 1. Select Erase codes from the diagnostic function list (Figure 3-4).
- Follow the on-screen instruction and make sure the ignition on and engine off. Press Yes to continue.

- A confirmation message "DTCs and freeze data will be deleted. Are you sure you want to continue?" will pop up to ask for your confirmation. Press Yes to continue.
- Erase Codes command will be sent and you can perform Read Codes function to verify. Press any key to continue.

Transmission

Read Codes

- 1. Select **Transmission control module** from the system list. The list may vary by test vehicles (*Figure 3-3*).
- 2. Select **Read codes** from the diagnostic function list (Figure 3-4).
- 3. All the DTCs of the Transmission control module are displayed. Press **Save** to save the data or press **ESC** to exit without saving.



Figure 3-11 Sample Transmission Trouble Codes Screen

- Select Erase codes from the diagnostic function list (Figure 3-4).
- Follow the on-screen instruction and make sure the ignition on and engine off. Press Yes to continue.
- A confirmation message "DTCs and freeze data will be deleted. Are you sure you want to continue?" will pop up to ask for your confirmation. Press Yes to continue.
- Erase Codes command will be sent and you can perform Read Codes function to verify. Press any key to continue.

4 OBDII Diagnostics

The OBD II Diagnostics function is a fast-access option that allows you to carry out a quick test on the engine system of OBD II vehicles.

When more than one vehicle control module is detected by the scan tool, you will be prompted to select the module where the data may be retrieved. The most often to be selected are the Powertrain Control Module [PCM] and Transmission Control Module [TCM].

CAUTION: Don't connect or disconnect any test equipment with ignition on or engine running.

- 1) Turn the ignition off.
- 2) Locate the vehicle's 16-pin Data Link Connector (DLC).
- 3) Plug the scan tool cable connector into the vehicle's DLC.
- 4) Turn the ignition on. Engine can be off or running.
- 5) Turn on the scan tool. Use the **SCROLL** button to select **OBDII/EOBD** from the **Main Screen** (Figure 2-2).
- 6) Press the **OK** button to wait for the Menu to appear. A sequence of messages displaying the OBDII protocols will be observed on the display until the vehicle protocol is detected.
- If the scan tool fails to communicate with the vehicle's ECU (Engine Control Unit) more than three times, a "LINKING ERROR!" message shows up on the display.
- ✓ Verify that the ignition is ON.
- Check if the scan tool's OBDII connector is securely connected to the vehicle's DLC.
- ✓ Verify that the vehicle is OBDII compliant.
- ✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and repeat the procedure from step 5.
- If the "LINKING ERROR" message does not go away, then there might be problems for the scan tool to communicate with the vehicle. Contact your local distributor or the manufacturer's customer service department for assistance.
- 7) View a summary of system status (MIL status, DTC counts, Monitor

status) on screen. Press ESC button for Diagnostic Menu to come up.

	Diagnostic Menu	
1	System Status	
2	Read Codes	
3	Erase Codes	
4	Liye Data	
5	Freeze Frame	
6	I/M Readiness	
7	O2 Monitor Test	
8	On-Board Monitor Test	

Figure 4-1 Sample Diagnostic Menu

- If more than one module is detected, you will be prompted to select a module before testing.
- Use the UP/DOWN scroll button to select a module and press the OK button.

System Status

System Status shows the MIL Status, codes found, and monitors status.

System Status		
ML Status	ON	
Codes Found	2	
Monitors N/A	0	
Monitors OK	9	
Monitors INC	0	
Save	OK	

Figure 4-2 Sample System Status Screen

Read Codes

- Reading Codes can be done with the key on engine off (KOEO) or with the key on engine running (KOER).
- Stored Codes are also known as "hard codes", which are fault codes, or trouble codes that have been stored in the vehicle computer memory because the faults have reoccurred for more than a specified amount of key-cycles. These codes will cause the control module to illuminate the malfunction indicator light (MIL) when emission-related fault occurs.
- Pending Codes are also referred to as "maturing codes" or "continuous monitor codes". They indicate problems that the control module has detected during the current or last driving cycle but are not considered serious yet. Pending Codes will not turn on the malfunction indicator lamp (MIL). If the fault does not occur within a certain number of warm-up cycles, the code clears from memory.
- Permanent Codes are DTCs that are "confirmed" and are retained in the non-volatile memory of the computer until the appropriate monitor for each DTC has determined that the malfunction is no longer present and is not commanding the MIL on. Permanent DTC shall be stored in non-volatile memory and may not be erased by any diagnostic services or by disconnecting power to ECU.
- Use UP/DOWN scroll button to select Read Codes from Diagnostic Menu and press OK button (Figure 4-1).
- Use the UP/DOWN scroll button to select Stored Codes, Pending Codes or Permanent Codes from the Read Codes menu and press the OK button.

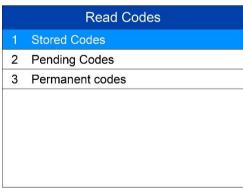


Figure 4-3 Sample Read Codes Screen

If there is not any Diagnostic Trouble Code, the display indicates "No (pending) codes are stored in the module!" Wait a few seconds or press any key to return to previous screen.

Permanent Codes function is available for merely vehicles supporting the CAN protocols.

- 3) View DTCs and their definitions on screen.
- If more than one DTC is found, use the LEFT/RIGHT scroll button to check all the codes.
 - If retrieved DTCs contain any manufacturer specific or enhanced codes, the AutoVIN technology embedded in this tool will automatically display the definition of the code.

Erase Codes

⊘ NOTE

- Erasing the Diagnostic Trouble Codes may allow the scan tool to delete not only the codes from the vehicle's on-board computer, but also "Freeze Frame" data and manufacturer specific enhanced data. Furthermore, the I/M Readiness Monitor Status for all vehicle monitors is reset to Not Ready or Not Complete status. Do not erase the codes before the system has been checked completely by a technician.
- Erasing codes does not mean that trouble codes in ECU have been eliminated completely. As long as there is fault with the vehicle, the trouble codes keeps on presenting.
- 3. This function is performed with key on engine off (KOEO). Do not start the engine.
- Use the UP/DOWN scroll buttons to select Erase Codes from Diagnostics Menu and press the OK button (Figure 4-1).
- A message comes up asking you to check the ignition and engine status.



Figure 4-4 Sample Erase Codes Screen 1

- If you do not want to proceed with erasing codes, press ESC button or select NO to exit and return to previous screen.
- If you press **Yes** function key or **OK** button, a warning message will come up asking your confirmation.

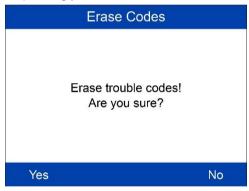


Figure 4-5 Sample Erase Codes Screen 2

- 3) Press the **OK** button to confirm.
 - If the codes are cleared successfully, an "Erase Done!" confirmation message shows on the display.

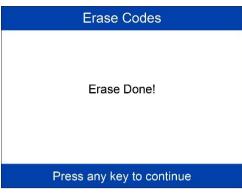


Figure 4-6 Sample Erase Codes Screen 3

- If the codes are not cleared, then an "Erase Failure. Turn Key on with Engine off!" message appears.
- Press any key to return to Diagnostic Menu.

Live Data

In this function, you can not only read the live data but also record data for later review

View Data

The View Data function allows viewing of live or real time PID data of vehicle's computer module(s).

- To view live data, use the UP/DOWN scroll button to select Live Data from Diagnostic Menu and press the OK button.
- Wait a few seconds while the scan tool validates the PID MAP.

Viewing Complete List

 To view complete set of data, use UP/DOWN scroll button to select Complete List from Live Data menu and press the OK button.



Figure 4-7 Sample Live Data Screen

- View live PIDs on the screen. Use the **UP/DOWN** scroll button for more PIDs if additional information is available on more than one page.
 - If the "Graphics" on the bottom appears when a PID is highlighted, graphic information is available. Select Graphics to view graph.
 PID name, current value, maximum and minimum values are displayed on the screen.

Complete List		
DTCFRZF	P2040	
FUELSYS1		
FUELSYS2		
LOAD_PCT	12.5	%
ECT	-40	°F
SHRTFT1	-100.0	%
Pause One Graphic Stop Save		

Figure 4-8 Sample Complete List Screen

• If the "Merge Graph" on the bottom appears when a PID is selected to view, merged graph information is available.

✓ NOTE

Merge Graph can be used to compare two related parameters in graphic mode, which is especially convenient in the **Custom List** option where you could select two interacted parameter to merge and see their relationship.

- Select **Text** to return to text viewing of PID data.
- ♦ Select Save to record retrieved live data and PID graphs.
- ♦ Select Pause to suspend viewing. You could resume the viewing process again by selecting Start.
- 3) Press the **ESC** button to return to previous menu.

Viewing Custom List

- To view customized PID data, use the UP/DOWN scroll button to select Custom List from Live Data menu and press the OK button (Figure 4-7).
- Use the UP/DOWN scroll button to move up and down to the desired items and press Select button to confirm. The selected parameters are marked with tick in the squares.



Figure 4-9 Sample Custom List Screen 1

- The number to the right of selected item indicates sequence of this item.
- If you want to deselect the item, press **Clear** button.
- To select all the items on the screen, press **Select All** button. To clear all the selected items on the screen, press **Clear All** button.
- 3) Press the **OK** button to view selected PIDs on screen.



Figure 4-10 Sample Custom List Screen 2

4) Press **Save** to save the data or **ESC** to return to previous menu.

Record Data

The Record Data function allows recording vehicle modules' Parameter Identification (PID) data to help diagnose intermittent vehicle problems. You could save data files to the SD card and then use the Playback function to view the saved files.

NOTE

The length of time for each frame varies per vehicle. Generally, one frame of data is about 1/4 second, or 4 frames per second.

- To record live data, with the live data screen displaying, select Save on the bottom. The scan tool will start timing to record retrieved live data and PID graphs.
 - If you record live data under text mode, following screen shows.

Save 15 Items		
DTC_CNT	1	
DTCFRZF	P2040	
FUELSYS1		
FUELSYS2		
LOAD_PCT	12.5	%
ECT	18	°F
Pause One Graphic Stop Save		

Figure 4-11 Sample Recording Data Screen 1

• If you record live data under graph mode, following screen shows.

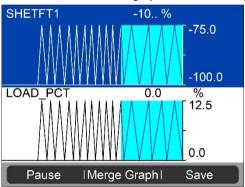


Figure 4-12 Sample Recording Data Screen 2

⊘ NOTE

The scan tool can only playback text data even though the data is saved in graphic mode.

- 2) When there is not enough memory space, a warning message prompting to delete previously recorded data.
 - Select **OK** to return to the previous menu.
- Select Pause to suspend recording. You could resume the recording process again by selecting Start.
- 4) You may review the saved data in **Playback** function.
- 5) Press **ESC** button to exit.

Freeze Frame

Freeze Frame Data allows the technician to view the vehicle's operating parameters at the moment a DTC (Diagnostic Trouble Code) is detected. For example, the parameters may include engine speed (RPM), engine coolant temperature (ECT), or vehicle speed sensor (VSS) etc. This information will aid the technician by allowing the parameters to be duplicated for diagnostic and repair purposes.

- To view freeze frame data, use the UP/DOWN scroll button to select Freeze Frame from Diagnostic Menu and press the OK button (Figure 4-1).
- Wait a few seconds while the scan tool validates the PID MAP.
- If retrieved information covers more than one screen, use the DOWN scroll button, as necessary, until all the data have been shown up.

Freeze Frame		
Numbers of DTCs	127	
DTC that caused required freeze frame data storage	U3FFF	
Fuel system 1 status	OL	
Fuel system 2 status	OL	
Calculated Load Value	100.0	%
Save		

Figure 4-13 Sample Freeze Frame Screen

- If there is no available freeze frame data, an advisory message "No freeze frame data stored!" shows on the display.
- Select Save to record freeze frame. A confirming message "Save success!" shows on the display and scan tool return to previous menu.
- 5) If you don't want to save the freeze frame data, press **ESC** button to return to previous screen.

Retrieving I/M Readiness Status

I/M Readiness function is used to check the operations of the Emission System on OBDII compliant vehicles. It is an excellent function to use prior to having a vehicle inspected for compliance to a state emissions program.

CAUTION: By clearing trouble codes you also clear the readiness status for the individual emission system readiness tests. In order to reset these monitors, the vehicle must be driven through a complete drive cycle with no trouble codes in memory. Times for reset vary depending on vehicle.

Some latest vehicle models may support two types of I/M Readiness tests:

- A. Since DTCs Cleared indicates status of the monitors since the DTCs are erased.
- B. **This Drive Cycle** indicates status of monitors since the beginning of the current drive cycle.

An I/M Readiness Status result of "NO" does not necessarily indicate that the vehicle being tested will fail the state I/M inspection. For some states, one or more such monitors may be allowed to be "Not Ready" to pass the emissions inspection.

- OK indicates that a particular monitor being checked has completed its diagnostic testing.
- INC indicates that a particular monitor being checked has not completed its diagnostic testing.
- N/A the monitor is not supported on that vehicle.
- 1) Use the **UP/DOWN** scroll button to select **I/M Readiness** from **Diagnostic Menu** and press **OK** button (*Figure 4-1*).
- 2) Wait a few seconds while the scan tool validates the PID MAP.
- If the vehicle supports both types of tests, then both types will be shown on the screen for selection.

	I/M Readiness
1	Since DTCs cleared
2	This driving cycle

Figure 4-14 Sample I/M Readiness Screen

4) Use the UP/DOWN scroll button, as necessary, to view the status of the MIL light (ON or OFF) and the following monitors:

For spark ignition engines:

- MIS Misfire Monitor
- FUEL Fuel System Monitor
- CCM Comprehensive Component Monitor
- EGR EGR System Monitor
- O2S O2 Sensors Monitor
- CAT Catalyst Monitor
- EVAP Evaporative System Monitor
- HTR O2 Sensor Heater Monitor
- AIR Secondary Air Monitor
- HCAT Heated Catalyst Monitor

For compression ignition engines:

- MIS Misfire Monitor
- FUEL Fuel System Monitor
- **CCM** Comprehensive Component Monitor
- EGR EGR System Monitor
- HCCAT NMHC Catalyst Monitor
- NCAT NOx Aftertreatment Monitor
- BP Boost Pressure System Monitor

- EGS Exhaust Gas Sensor Monitor
- PM PM Filter Monitor

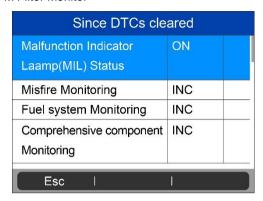


Figure 4-15 Sample since DTCs Cleared Screen

5) If the vehicle supports readiness test of "**This Drive Cycle**", a screen of the following displays.

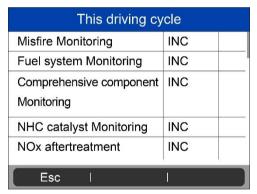


Figure 4-16 Sample This Driving Cycle Screen

- 6) Use the UP/DOWN scroll button for more PIDs if additional information is available on more than one page. Or use the LEFT/RIGHT scroll button to view PIDs in the previous/next page.
- 7) Press the **ESC** button to return to **Diagnostic Menu**.

O2 Monitor Test

OBDII regulations set by SAE require that relevant vehicles monitor and tests on the oxygen (O2) sensors to identify problems related to fuel efficiency and vehicle emissions. These tests are not on-demand tests and they are done automatically when engine operating conditions are within specified limits. These test results are saved in the on-board computer's memory.

The O2 Monitor Test function allows retrieval and viewing of O2 sensor monitor test results for the most recently performed tests from the vehicle's on-board computer.

The O2 Monitor Test function is not supported by vehicles which communicate using a controller area network (CAN). For O2 Monitor Test results of CAN-equipped vehicles, see chapter "On-Board Mon. Test".

- Use the UP/DOWN scroll button to select O2 Monitor Test from Diagnostic Menu and press OK button (Figure 4-1).
- 2) Wait a few seconds while the scan tool validates the PID MAP.
- Use the UP/DOWN scroll button to select O2 sensor from O2 Monitor Test menu and press OK button.

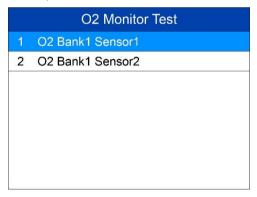


Figure 4-17 Sample O2 Monitor Test Menu

 If the vehicle does not support the mode, an advisory message will be displayed on the screen.

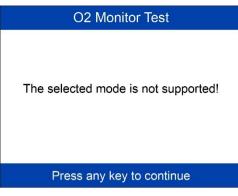


Figure 4-18 Sample Nonsupport Screen

4) View test results of selected O2 sensor.

	O2 Bank1 Sensor1
1	Rich-Lean Threshold(V)
2	Lean-Rich Threshold(V)
3	Low for Switch(V)
4	High for Switch(V)
5	Rich-Lean Threshold(s)
6	Lean-Rich Threshold(s)
7	Min for test Cyc(V)
8	Max for test Cyc(V)

Figure 4-19 Sample O2 Sensor List

Low for Switch(V)		
Module	\$10	
Test Value	1.120	
Min Limit	0.880	
Max Limit	0.640	
Save		

Figure 4-20 Sample O2 Sensor Test Result

- Use the UP/DOWN scroll button to view more screens of data if additional information is available in more than one page.
- 6) Press the **ESC** button to return to the previous menu.

On-Board Monitor Test

The On-Board Monitor Test is useful after servicing or after erasing a vehicle's control module memory. The On-Board Monitor Test for non-CAN-equipped vehicles retrieves and displays test results for emission-related power train components and systems that are not continuously monitored. The On-Board Monitor Test for CAN-equipped vehicles retrieves and displays test results for emission-related power train components and systems that are and are not continuously monitored. Test and components IDs are determined by the vehicle manufacturer.

In this test, there are typically a minimum value, a maximum value, and a current value for each monitor. By comparing the current value with the minimum and maximum value, the scan tool will determine if it is OK.

- Use the UP/DOWN scroll button to select On-Board Monitor Test from Diagnostic Menu and press the OK button (Figure 4-1).
- 2) Wait a few seconds while the scan tool validates the PID MAP.
- The scan tool will prompt you to select the vehicle make. (If you have selected the vehicle before, the Vehicle Manufacturer screen would not appear again)

	Vehicle Manufacturer	
1	BUICK	
2	BMW	
3	CADILLAC	
4	CHEVROLET	
5	CHRYSLER	
6	CITRQEN	
7	FORD	
8	GM	

Figure 4-21 Sample Vehicle Manufacturer Screen

- 4) After you select the vehicle manufacturer, the scan tool shows the On-Board Monitors tests for specific monitoring systems.
- 5) From **On-Board Monitor Test** menu, use the **UP/DOWN** scroll button to select a test to view and press the **OK** button.

	On-Board Monitor Test
1	Test \$09 Data
2	Test \$0A Data
3	Test \$0B Data
4	Test \$0C Data
5	Test \$0D Data
6	Test \$0E Data
7	Test \$0F Data
8	Test \$10 Data

Figure 4-22 Sample On-Board Monitor Test Menu

• If the vehicle under test does not support the mode, an advisory message will be displayed on the screen.



Figure 4-23 Sample Nonsupport Screen

 For CAN-equipped vehicles, test results displayed can be as below:

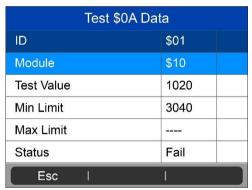


Figure 4-24 Sample Test Data Screen

6) Press **ESC** button to return to the previous menu.

Component Test

The Component Test function allows initiating a leak test for the vehicle's EVAP system. The scan tool itself does not perform the leak test, but commands the vehicle's on-board computer to start the test. Different vehicle manufacturers might have different criteria and methods for stopping the test once it has been started. Before starting the Component Test, refer to the vehicle service manual for instructions to stop the test.

- 1) Use the **UP/DOWN** scroll button to select **Component Test** from **Diagnostic Menu** and press the **OK** button (*Figure 4-1*).
- 2) Wait for the scan tool to display the **Component Test** menu.

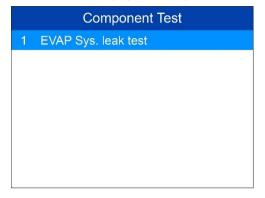


Figure 4-25 Sample Component Test Screen 1



Figure 4-26 Sample Component Test Screen 2

- If the test has been initiated by the vehicle, a confirmation message will be displayed on the screen.
 - Some vehicles do not allow scan tools to control vehicle systems or components. If the vehicle under test does not support the EVAP Leak Test, an advisory message is displayed on the screen.
- 4) Wait a few seconds or press any key to return to previous screen.

Viewing Vehicle Information

The Vehicle Info. function enables retrieval of Vehicle Identification No. (VIN), Calibration ID Nos. (CINs), Calibration Verification Nos. (CVNs) and In-use Performance Tracking on 2000 and newer vehicles that support Mode 9.

- Use UP/DOWN scroll button to select Vehicle Info. from the Diagnostic Menu and press OK button (Figure 4-1).
- An advisory message comes up to remind you. Wait a few seconds or press any key to continue.
- 3) Wait for the scan tool to display the Vehicle Info. menu.
 - If the vehicle does not support this mode, a message shows on the display warning that the mode is not supported.
- From Vehicle Info. menu, use the UP/DOWN scroll button to select an available item to view and press the OK button.

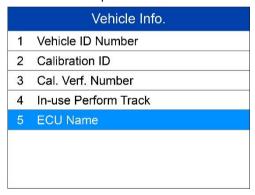


Figure 4-27 Sample Vehicle Info. Screen

5) View retrieved vehicle information on screen.



Figure 4-28 Sample Vehicle ID Number Screen

6) Press the **ESC** button to return previous menu.

Modules Present

The Modules Present function allows viewing of the module IDs and communication protocols for OBD2 modules in the vehicle.

- 1) Use the **UP/DOWN** scroll button to select **Modules Present** from **Diagnostic Menu** and press **OK** button (*Figure 4-1*).
- 2) View modules present with their IDs and communication protocols.

Modules Present		
Protocol	ID	
CAN STD FAST	\$07E8	Ī
CAN STD FAST	\$07E9	
Save		

Figure 4-29 Sample Modules Present Screen

 Select Save to save the modules data and return to previous menu. Or press ESC button to exit.

DTC Lookup

Refer to *DTC Lookup* for detailed information.

5 DTC Lookup

The DTC Lookup function allows user to search definitions of DTC stored in built-in DTC library.

- Use the UP/DOWN scroll button to select DTC Lookup from Main Screen and press OK button (Figure 2-2).
- Select Show and a soft keyboard will pop up. Use LEFT/RIGHT button and UP/DOWN button to move to the desired character, then press OK button to confirm.

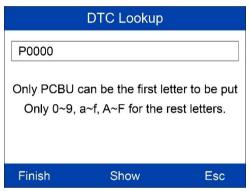


Figure 5-1 Sample DTC Lookup Screen 1

 After you input the DTC code, select Finish and the scan tool will display this code's definition on screen.

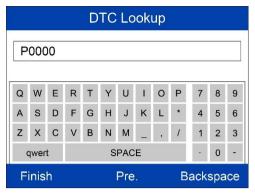


Figure 5-2 Sample DTC Lookup Screen 3

 Press Yes or OK button to proceed. The scan tool will display DTC definition as below.



Figure 5-3 Sample DTC Lookup Screen 4

- Use the LEFT/RIGHT scroll button to view the previous / next DTC.
- Select Save to record code definition.
- For manufacturer specific codes, the AutoVIN function embedded in this tool will automatically display the definition of the code.
- If definition could not be found, the scan tool displays "Please refer to vehicle service manual!"
- 5) Press **ESC** button to return to previous menu.

6 Playback Data

The Playback Data function allows viewing data from last test recorded by the scan tool.

Review Data

 Use the LEFT/RIGHT scroll button to select Playback from Main Screen (Figure 2-2), and press the OK button. Wait for the Review Data screen to appear.

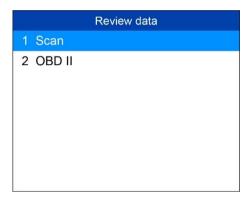


Figure 6-1 Sample Review Data Screen 1

- 2) To review data saved in the scan function, select Scan in the Replay menu. To review data saved in the OBD II function, select OBD II in the Replay menu. Then press OK button to continue.
- Use the UP/DOWN scroll button to select the desired DTC entries from Scan menu or OBD II menu, and press the OK button to view details of the trouble code.



Figure 6-2 Sample Review Data Screen 2

- If no data from previously tested vehicle is recorded, a message "No data available!" shows on the screen.
- Review selected data on screen.



Figure 6-3 Sample Reviewing Data Screen 3

Delete Data

By selecting **Delete** on the **Scan** or **OBD II** screen, you are allowed to erase the selected data on the scan tool. Review the recordings thoroughly before erasing. You could also erase all recordings by select **Delete AII**.

✓ NOTE

Don't use **Delete All** unless you are definitely sure what you are going to proceed.

Print Data

By selecting **Print** option on the trouble codes screen, you are allowed to send the recorded files to your computer and then to the printer.

For more details, please refer to Print Data.

7 System Setup

The System Setup functions allow you to adjust default settings and view information about the scan tool.

- 1) Language: Selects the desired language.
- 2) Unit: Sets the unit of measure to English or Metric.
- Beep: Turns on/off beep.
- 4) **Key Test:** Checks if the keyboard is working properly.
- 5) LCD Test: Checks if the LCD display is working properly.

✓ NOTE

Settings of the unit will remain until change to the existing settings is made.

To Enter the Setup menu

From the **Main Screen** (*Figure 2-2*): Use **LEFT/RIGHT** scroll button to select **Setup**, and press the **OK** button to enter the setup menu.



Figure 7-1 Sample Setup Menu

Language Setup

English is the default language.

 From System Setup screen, use the UP/DOWN scroll button and LEFT/RIGHT scroll button to select Language, and press the OK button.



Figure 7-2 Sample Language Set Screen

 Use the UP/DOWN scroll button to select the desired language and press the OK button to save your selection and return to previous screen.

Unit of Measure

- Metric is the default measurement unit.
- From System Setup screen, use the LEFT/RIGHT scroll button to select EN/METRIC and press the OK button.



Figure 7-3 Sample Unit of Measure Screen

- From Unit of Measure screen, use the LEFT/RIGHT scroll button to select the desired unit of measurement.
- Press the **OK** button to save your selection and return to previous menu.
 Or, press the **ESC** button to exit without saving.

Beep Set

- The default setting is Beep On.
- From System Setup screen, use the UP/DOWN scroll button and LEFT/RIGHT scroll button to select Beep and press the OK button.
- From Beep Set menu, use the LEFT/RIGHT scroll button to select ON or OFF to turn on/off the beep.

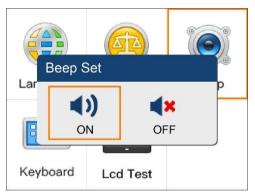


Figure 7-4 Sample Beep Set Screen

Press the **OK** button to save your selection and return to previous menu.
 Or press the **ESC** button to exit without saving.

Key Test

The Key Test function checks if the keyboard is working properly.

- From System Setup screen, use the UP/DOWN scroll button and LEFT/RIGHT scroll button to select Key Test, and press the OK button.
- Press any key to start test. When you press a key, the edge around corresponding key on the screen should turn to red. Otherwise, the key is not functioning properly.



Figure 7-5 Sample Key Test Screen

3) Double press **ESC** to return to previous menu.

LCD Test

The LCD Test function checks if the LCD display is working normally.

- From System Setup screen, use the UP/DOWN scroll button and LEFT/RIGHT scroll button to select LCD Test, and press the OK button.
- Look for missing spots in the red, green, blue, black and white LCD display.
- 3) When completed, press the **ESC** button to exit.

8 About

The **About** function allows viewing of some important information such as serial number and software version number of the scanner.

 From Main Screen (Figure 2-2), use the UP/DOWN scroll button and LEFT/RIGHT scroll button to select About and press the OK button, wait for the About screen to appear.



Figure 8-1 Sample About Screen

2) View tool information on screen. Press the ESC button to exit.

9 Print and Update

Print Data

The Print Data function allows printing out DTC data recorded by the scan tool by connecting the scan tool to a PC or laptop with the USB cable supplied.

- 1) Download the Maxi PC Suite and install.
- Connect the scanner to computer with the USB cable supplied.
- 3) Run Autel Printer software on computer.
- 4) Select Playback function in Main Screen of the scan tool. In Scan/OBDII screen, use the UP/DOWN scroll button to select the data you want to print. Wait for the reviewing window to display, and then select Print function. The selected file will be uploaded to your computer. For more detailed instructions, please refer to 4. Playback Data.
- The Printer will show as below.

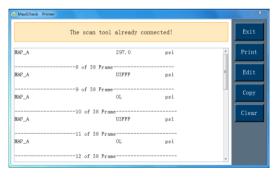


Figure 9-1 Sample Printer Screen

- 6) The selected data will display on the textbox of Printer. By selecting the function keys on the right, you could execute the following operations:
 - Print Print all data in the textbox to a printer connected to your computer.
 - Edit Once clicked, the software will automatically open an NOTEPAD window with all recorded data displayed.

- Copy Copy all data in the textbox to the clipboard.
- Clear Delete all data in the textbox.
- Exit Quit the operation.
- You are also allowed to edit, copy, and delete the data in the Printer window

⊘ NOTE

The scan tool can only print text data even though the data is saved in graphic mode.

The print function is not available on Mac for the present.

Software Update

This function allows you to update the scan tool software through a computer.

Register the Tool

User can update the scan tool **ONLY** after you had registered the tool on our website. Then you could download software, update online, retrieve information and get warranty service. You can use a **Mac** or a **Windows-based** computer to download the Maxi PC Suite and then proceed.

✓ NOTE

Prior to registration, please confirm your network is working properly.

- Visit the website.
- 2. If you already have an Autel account, sign in with your account ID and password.
- 3. If you are a new member to Autel, click the **Create Autel ID** button on the left side to create an ID.
- 4. Enter the required information in the input fields, and click the Get Verification Code button.
- 5. The online system will automatically send a verification code to the registered email address. Input the code in the Verification Code field and complete other required fields. Read through Autel's Terms and Conditions and tick on Agree, and then click Create Autel ID at the bottom. A product registration screen will display.

- 6. The device's serial number and password is located in the About section of the Settings application on the tool
- Select your product model, enter the product serial number and password on the Product Registration screen, and click **Submit** to complete the registration procedure.

Please refer to section *About* for Product Serial No. and Register Password.

Update Procedure

Autel frequently releases software updates that you can download. The Update feature makes it very easy to determine and get exactly what you need.

Before updating, remove the TF card from the scan tool and connect it with a computer with a card reader. Then follow the update procedure to finish updating. The Windows version is taken as an example here.

- Download the Maxi PC Suite and install to your PC. Make sure your computer is connected to the Internet.
- Run the Maxi PC Suite and select the Micro SD card icon in the Maxi PC Suite software. Wait for the Log In window to pop up.

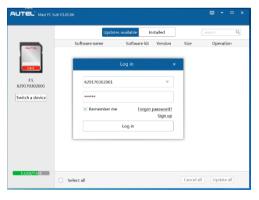


Figure 9-2 Sample Log in Window

- Enter your Autel ID and password and wait for the Update window to display. If you forget your password, you can always click the [Forget Password?] to link to our website and find your password back.
- 4. Select the product type and serial number, click **OK** to continue.

In the **Update** window, select the items you want to install. Usually, you should install all available updates.

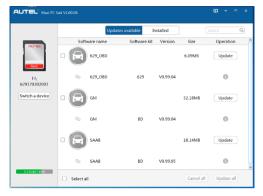


Figure 9-3 Sample Update Window

Generally, there are two ways to update programs:

Batch Update

- Select the programs that you would update by clicking on the check boxes next to those items. Then click the **Update All** button on the right bottom of the screen. Click the **Clear All** button will reselect the items you want to update.
- Or, click on the Select All checkbox on the left bottom of the screen and all updatable items will be selected automatically. Then click the Update All button on the right side of screen.
- When the downloading is completed, the downloaded programs will be installed automatically. The new version will replace the old version.

Single Update

- Find the desired updating item and click the **Update** button in the same line.
- When the downloading is completed, the downloaded program will be installed automatically. The new version will replace the old version.
- 3. Insert the TF card into the scan tool, and restart the scan tool to finish the whole update.
- View or Delete Programs

To view the list of installed programs or to delete an installed program,

please follow these steps:

- 1. Click on the **Installed** tag entry and the page will show the list of programs installed.
- Select the program(s) that you want to delete.
 - Batch delete: Select the programs that you want to delete by clicking on the check boxes to the left of those items. Then click the Uninstall All button on the right bottom of the screen.
 - Single delete: Click the Uninstall button in the line of your would-be-deleted program.
- 3. A window asking "Are you sure to delete the software?" will pop up for your confirmation.

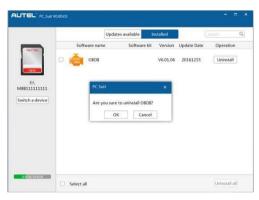


Figure 9-4 Sample Delete Window

- Click on OK to delete the program(s) selected, or on Cancel to quit the action.
- The deleted program will automatically add to the end of program list in the Update page in case you would like to install again.

In the search box on the right top corner of the screen, you can enter any words to search the software you desired, and this function works for both Update Available column and Installed column.

10 Compliance Information

FCC Compliance

This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme aux CNR exempts de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:

- 1. Ce dispositif ne peut causer des interferences; et
- Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

MARNING

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

✓ 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.

SAR

The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact is minimized during normal operation.

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/Kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands.

Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. To avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to antenna should be minimized.

RF WARNING STATEMENT

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

ROHS COMPLIANCE

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

CE COMPLIANCE

This product is declared to conform to the essential requirements of the following Directives and carries the CE mark accordingly:

EMC Directive 2014/30/EU R&TTE Directive 1999/5/EC Low Voltage Directive 2014/35/EU

11 Warranty and Service

Limited One Year Warranty

Autel warrants to its customers that this product will be free from all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions:

- The sole responsibility of Autel under the Warranty is limited to either the repair or, at the option of Autel, replacement of the scan tool at no charge with Proof of Purchase. The sales receipt may be used for this purpose.
- 2) This warranty does not apply to damages caused by improper use, accident, flood, lightning, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center.
- 3) Autel shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the scan tool. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.
- 4) All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness. Autel reserves the right to make changes at any time without notice.