MANUAL SER



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1. Safety Information

To prevent personal injury or damage to vehicles and/or the scan tool, read this instruction manual before operating tool and observe the following safety precautions:

- 1. Always perform diagnostics or service in a safe environment.
- 2. Wear safety eye protection that meets ANSI standards.
- 3. Keep clothing, hair, hands, tools, and test equipment away from moving or hot engine parts.
- 4. Operate the vehicle in a well-ventilated work area.
- 5. Never leave the vehicle unattended when testing. Place blocks in front of drive (front) wheels to prevent accidental movement.
- 6. Use extreme caution 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/electrical fires nearby.
- Put the vehicle's transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission). Make sure the parking brake is engaged.
- 8. To avoid activating the Malfunction Indicator Light (MIL), turn off the ignition before connecting or disconnecting the OBDII Cable when it is attached to the TPMS tool.
- 9. To avoid personal injury and prevent performing unneeded repairs, refer to the user's manual of the vehicle being serviced and adhere to all diagnostic procedures and precautions described.
- 10. Keep the TPMS tool dry, clean, free from oil, water and grease. Clean with a cloth dampened with water and a mild detergent.

2. TPMS System Review

A tire pressure monitoring system (TPMS) is an electronic system designed to monitor vehicle tire pressure and alert the driver via a dashboard indicator light when tire pressure falls below 25 percent (U.S.) and 15-20 percent (Europe). Typically, the TPMS consists of a sensor attached to the valve stem of each tire that wirelessly transmits tire and sensor data to the vehicle's Electronic Control Unit (ECU).

2.1 TPMS Legislation

In the United States, starting in 2008, all passenger vehicles, SUVs and light trucks are federally mandated to have a Tire Pressure Monitoring System installed. In the European Union, by November 2014, all Europe an manufacturers were required to install TPMS on all new passenger vehicles. In 2013, South Korea, began its phase-in of the passenger vehicle TPMS mandate and now requires TPMS on all new vehicles with a gross vehicle weight of 4.5 metric tons (9,921 lbs) or less. Japan followed with TPMS mandates in 2015. Russia, Indonesia, the Philippines,Israel, Malaysia and Turkey have proposed or pending TPMS regultions.

2.2 TPMS Tell-Tale Light

A quick review of the Tell-tale indicator light status and its meaning follows:

After starting the ignition:

- 1. If the tell-tale indicator lights and then turns off, the tire pressure on the vehicle is adequate and the monitoring system is working-properly.
- 2. If the tell-tale indicator lights and remains displayed, the tire pressure of one or more of the vehicle tires is low.
- 3. If the tell-tale light flashes for 60 to 90 seconds and then remains solid, a problem exists with the TPMS system.

2.3 Benefits of TPMS

Benefits of the TPMS include:

- 1. Fuel saving.
- 2. Extended tire life.
- 3. Decreased downtime and maintenance.
- 4. Improved safety.
- 5. Environmental efficiency.

3. Tool Overview



- 1) **RUBBER BOOT** Protects the TPMS tool from falls and abrasions
- LCD DISPLAY Displays test results. Backlit, 128 x 64 pixel display with contrast adjustment.
- 3) UP SCROLL BUTTON Press to move up through menus and to previously displayed data screens. When viewing diagnostics trouble codes (DTCs) use to view previously displayed codes.
- 4) **BUTTON** Press to cancel a selection (or action) or return to the previous menu.
- 5) **DOWN SCROLL BUTTON** Press to scroll through displayed data or text and to view information on previous screens if additional information is available.

- 6) (?) HELP BUTTON Press to display help information.
- 7) OPWER BUTTON Press to turn on/off the tool.
- 8) BUTTON Press to confirms a selection (or action) from a menu or return to previous menu.
- 9) TEST BUTTON Press to send signal to activate sensor
- USB PORT Connects the TPMS tool to computer with the supplied USB cable to update the software or to charge.
- 11) **POWER PORT** Connects to the TPMS tool with the supplied charger.
- **3.1 Specifications**
- 1) Display: Backlit 128 x 64 pixel display with contrast adjustment
- 2) Power: 3.7V Li-polymer battery
- 3) Operating Temperature: 0 to 50°C (32 to 122 °F)
- 4) Storage Temperature: -20 to 70°C (-4 to 158 °F)
- Dimensions: Length: 195.5 mm (7.7") Width: 104 mm (4.09") Height 37.5 mm (1.48") Weight: 0.37kg (0.82lb)
- 3.2 Accessories Included
- 1) **User Manual** Instructions on tool operations.
- USB Cable Connect tool to Window PC to Update tool software and Print Audit (Test Results).
- 3) **Carry Case** A case to store the tool when not in use.
- Magnet Used to trigger magnetically activated sensors (early model TPMS sensors)
- 5) **Power Adapter** Charges the built-in battery.
- 6) CD Contains the user manual and MaxilinkII software

3.3 Understanding Display Icons

Icons	Meanings		
	Current selection		
X/X	Current page of total pages		
Ζ	Data is stored on tool		
	Battery Level		
*	Connected to PC via USB		
?	Press 🥐 button to tip.		

Icons	Meanings		
	Press 🕐 to view full text		
	Magnet required		
P <u>↓</u>	Deflation required		
\odot	Tool in One Wheel mode		
	Tool in All Wheel mode		
(((•	Signalling the tire sensor		

3.4 Keyboard Maintenance

Use a mild, nonabrasive detergent on a dampened soft cotton cloth to clean keyboard and display. Never use any solvents, especially those that are alcohol-based to clean any part of unit. Do not soak unit; it is not waterproof.

3.5 Battery Charging

The tool has a 3.7V built-in lithium-ion polymer rechargeable battery.

- 1) To charge battery by power adapter.
 - Locate the power port of the device.
 - Connect the device and the power source with the adapter.
- 2) To charge battery by USB cable
 - Locate the USB port of the device.
 - Connect the device and the computer with the USB cable.

Note: For optimum performance, always keep your tool sufficiently charged. It is recommended that you charge the tool for at least two hours before the first use.

Important: Only use the power adapter or USB cable included with the tool. The use of unapproved power supplies may damage the tool and void the warranty.

4. Settings Menu

The tool allows you to make the following settings adjustments.

- 1) Language: Sets language
- 2) **ID Format:** Sets to display sensor ID in either Hexadecimal or Decimal.
- 3) **Pressure Unit:** Sets the pressure measurement unit in kPa, psi, or bar.
- 4) **Temperature Unit:** Sets unit of temperature, Celsius or Fahrenheit.
- 5) Beep Set: Enables/disables key-press beep.
- 6) Wheels to Test: Sets test mode to One Wheel or All Wheels.
- 7) **Auto Power-off:** Sets the amount of time the tool can remain idle before it automatically turns off.
- 8) **Contrast:** Adjusts the contrast of the LCD display.
- 9) Backlight Set: Turns off/on the backlight.
- 10) **Tool Information:** Displays tool's serial number, software and hardware versions.

Tool operates with default settings until changed.

To customize the tool settings, power on the tool and use the **DOWN** Arrow button to select **Settings** from Main Menu, and press the **Y** button.

Language

1) From System Settings screen, select Language, and press the Y button.

2) The tool can operate in one of several languages.

Select operating language.

 Press the Y button to save your selection and return to the previous screen.

Main Menu 3/5 Vehicle Selection RKE & RF Monitor Settings ? Update Mode



ID Format

1) From System Settings screen, use the **DOWN** Arrow button to select **ID Format**, and press the **Y** button.

2) From ID Format screen, select the sensor ID format, either Hexadecimal or Decimal.

3) Press the Y button to save your settings and return to the previous menu, or press the N button to exit without change.



Pressure Unit

1) From System Settings screen, use the **UP** or **DOWN** Arrow buttons to select Pressure Unit, and press the **Y** button.

2) From Pressure Unit screen, select air pressure unit of measure: kPa, psi or bar. (Figure 3.7)



3) Press the **Y** button to save your selection and return to previous menu, or press the **N** button to exit without change.

Temperature Unit

1) From System Settings screen, use the **DOWN** Arrow buttons to select Temperature Unit, and press the **Y** button.



2) From Temperature Unit screen, use the **UP** or **DOWN** Arrow buttons

to select the desired unit of temperature, either Celsius (°C) or Fahrenheit (°F).

3) Press the Y button to save your settings and return to previous menu, or press the N button to exit without change.

Beep Set

Turn on/off the built-in speaker that emits a beep when a key is pressed.

1) From System Settings screen, use the **DOWN** Arrow button to select **Beep Set**, and press the **Y** button.

System Setti	ngs 5/10
Language ID Format	English Hex #
Pressure Unit Temperature Unit	Psi
► Beep Set	OFF
E	200.00

2) From Beep Set menu, use the **UP** or **DOWN** Arrow buttons to select ON or OFF.

3) Press the **Y** button to save your selection or the **N** button to exit without change.

Wheels to Test

Select to test All Wheels or One Wheel.

1) From System Settings screen, use the **DOWN** Arrow button to select **Wheels to Test** and press the **Y** button.

2) Using the **UP** or **DOWN** Arrow buttons choose to test all wheels by selecting All Wheels or to test one wheel select One Wheel.



Press the ${\bf Y}$ button to save change or Press the ${\bf N}$ button to exit without change.

Note: In All Wheels mode, the tool will check for duplicate sensor ID. In One Wheel mode, the tool will not check for duplicate sensor IDs.

Auto Power-Off

1) From the System Settings screen, use the **UP** Arrow button to select **Auto Power-off** and press the **Y** button.

2) Press the **UP** or **DOWN** Arrow buttons to increase or decrease the amount of time the tool can remain idle until it powers off.



3) Press the Y button to confirm the change or press the N button to exit without change.

Note: The tool will save all test data before automatically turning off. This data will be available next time the tool is turned on. If the tool automatically turns off during a test operation, upon restart the tool will return to the test screen

Note: The tool will not power off automatically when connected to an external power supply; power it off by pressing and holding the power button. Only when using its internal battery will the tool automatically power off after being idle for the set time.

Contrast

1) From System Settings use the UP or DOWN Arrow buttons to select **Contrast** and press the Y button.

2) Using the UP or DOWN

Arrow buttons, adjust the screen

contrast and press the Y button to confirm the change or press the **N** button to exit without change.

Backlight Setting

1) From System Settings, use the DOWN Arrow button to select the Backlight Set and press the Y button.

2) Use the **UP** or **DOWN** Arrow

buttons to select **Backlight ON** to turn

on the display's backlight or select Backlight turn the display's backlight off.

3) Press the Y button to confirm change or press the N button to exit without change.



ht	OFF	to	t

Backlight ON

Backlight OFF



Backlight Set

?

Tool Information

Select this setting menu to view tool's serial number and hardware and software versions.

1) From the System Settings screen, use the **UP** or **DOWN** Arrow buttons to select **Tool Information** and press the **Y** button.

Serial NO: Ts40000005 Date : 06/28/12 S/W Ver : V1.0 H/W Ver : V2.00

2) The tool information will display.

5. Update Tool Software

Before first using the tool, check the Autel website to ensure it has the latest software installed. It is important to check the website regularly for software updates to ensure the tool continues to work with newer vehicles. Autel makes consistent improvements to the tools system software and expands the tool vehicle coverage.

The TS401 is updated via the MaxiLinkII software installed on a Windows PC and by downloading the Update file from the Autel.com website.

 To download software updates, go to www.autel.com. Click on
 Support & Updates, then Firmware
 & Downloads, click on the Software
 Update Pack tab and then under the
 TS401 listing, click on Download Here

button to download the zip file. Unzip the file.

2) Updates are installed on the tool via the MaxiLinkII software. The MaxilinkII software is included on the CD shipped with the unit and also available at http://support.autel.com/ support/solutions/folders/8000079030



IMPORTANT: Both the tool system Update and the DTC Update MUST be performed for the tool to operate correctly.

(From the home page, go to *Support & Updates*, then Select Update Client. Click on the **Download Here** button under MaxiLinkII. Unzip the file and install.)

3) Connect tool to Windows-based PC using the supplied USB and select **Update Mode** on the tool.

4) Launch MaxiLinkII on the PC and then select the TS401 on the left-hand side of the screen under the TPMS tab.



5) Under Update Program, click on select file and browse to the new software update you downloaded. Open the folder, select the file within (*the extension is .bin*) and Click Update.

The application will communicate with the tool and update its software. The PC application and the tool will display a message once the update is completed.

6) Next, Under **UPDATE DTC**, Click on Select File, (*the extension is .aut*) and Click on **OPEN**. Click on **UPDATE**. The application will communicate with the tool and update its software.

The PC application and the tool will display a message once the update is completed.



Now your tool is ready to use.

6. TPMS Sensor Activation

The MaxiTPMS TS401 can activate all known sensors and read the sensor ID, frequency, battery level, tire pressure and temperature.

The TS401 can activate TPMS sensors in two ways:

A. Vehicle Selection: Activate sensor after selecting vehicle make, model and year.

B. Latest Scan: the TS401 records the latest activated sensor data and the sensors can be re-activated by using the wave signal of the last test.

Vehicle Selection

 Use the UP or DOWN Arrow button to select Vehicle Selection from the Main Menu and press the Y button to confirm.
 Next, using the UP or DOWN Arrow button, select the vehicle's MAKE, MODEL and YEAR.



The Activation screen will display differently depending on the test mode chosen, All Wheels or One Wheel.

6.1 All Wheels Mode

In this mode, a vehicle diagram displays. Each wheel on the diagram will blink one at a time to prompt the user to activate each sensor in proper sequence, FL (Front Left), FR (Front), RR (Right Rear), RL (Left Rear) and Spare.



To activate a sensor, place the tool alongside the tire valve stem and press the Signal button (♠). Once the sensor is activated, the tool will emit a beep and a test result icon, ✓, X, D, will display. The tire pressure will display next to Result Icon. A solid wheel indicates the activation has been completed.



6.2 Understanding Activation Icons

Icon	Test Results/ Message Displayed	Meaning/Action to Take
>	Sensor Successfully Read	 TPMS Sensor is Activated; Sensor and Tire Data is Displayed
x	Sensor Cannot Be Read "No Sensor Detected"	 Sensor may not be functional. Repeat test to confirm sensor failure
x	Wrong Sensor Type "Sensor Triggered but Cannot be Known"	 Sensor activated and read, but does not match protocol for selected vehicle. Confirm correct vehicle Make, Model and Year was selected. Confirm correct sensor is fitted to vehicle.
D	Duplicate Sensor ID "Sensor ID Duplicate"	• A sensor with a duplicate ID has been read. Activate sensors again.

Chart 1

6.3 One Wheel Mode

When operating in One Wheel Mode, place the tool alongside the valve stem and press the Signal button (). Once the sensor is activated, the tool will beep and display the sensor ID, battery level, frequency and tire pressure and temperature. The screen will display for three seconds before resetting for next sensor test. The tool can save up to five sensor data records at a time. If more than five records are stored, the latest record will overwrite the first one.

Press the (?) button at anytime during testing in either mode to display the sensor manufacturer, sensor frequency, OEM part number and Relearn procedure.

Use the **Down** Arrow button to page through the instructions. Sensor activation can be aborted at any time by pressing the **N** button. The tool will then return to the previous menu.

Press the Y button to review information for all tested sensors. First the Sensor ID, Tire Pressure and Tire Temperature associated with each wheel will display. On the second screen, the Battery Level, Mode and Modulation will display.

Mitsubishi Lancer Front Left ID:0C206BF2 H Pres. 35 Psi Temp. 78.0' F Fre. : 315 MHz BAT. : Normal

Mitsubishi Lancer

	- 1/10
ensor Mitsubishi _315	
EM Part #: 4250B995	+
elearn:	
. Inflate all tires to pressure I	isted
n tire placard.	
. Turn ignition to OFF position	

Pos	ID-H	Psi	°F
FL	7C076A80	35	78.0
FR	7C076A80	35	78.0
RR	7C076A80	35	78.0
RL	7C076A80	35	78.0
	[N]=exit	1/2	

Pos	BAT M	ode	MDT
FL	70076480	NA	433FM
FR	7076480	NA	433FM
RR	7C076A80	NA	433FM
RL	7C076A80	NA	433FM
	[N]=exit	2/2	

Display Information

Pos	 Wheel position
ID-H/D	 Displays sensor ID
kPa/psi/bar	 Air pressure
C%F°	 Wheel temperature
BAT	 Battery level
Mode	 TPMS sensor mode
MDT	 Sensor signal frequency

Note: ID format, pressure and temperature units will display as selected in Tool Settings.

6.4 Troubleshooting Sensor Activation

Depending on the sensor and/or vehicle, additional steps may need to be taken to activate the sensor on the vehicle.

• If the magnet icon I is displayed, the sensor requires the use of a magnet (included in kit) to be activated. Place the magnet over the tire valve stem and then place the TS401 along side the stem and press the Signal button.

• If the deflation icon $\mathbf{P} \mathbf{\downarrow}$ is displayed, the sensor requires the tire be deflated (typically by 10 psi, consult vehicle user manual) to activate the sensor. Deflate tire and then place the tool alongside the valve stem and press the signal button.

If activating a banded sensor on a Ford vehicle, hold the TS401
 180 degree from the valve stem and press the Signal button.

6.5 Latest Scan

Use this function to review the sensor data of the last vehicle tested and activate the sensors. This vehicle will be listed on the display.

 Use the UP or DOWN Arrow button to select the vehicle from the Main Menu, place the tool alongside the valve stem of each wheel and select the Y button.
 A message will display asking if the TPMS data should be deleted.

3) Press the **N** button to review historical sensor data. Use the **DOWN** Arrow button



Pos	BAT M	ode	MDT
FL	7C076A80	NA	433FM
FR	7C076A80	NA	433FM
RR	7C076A80	NA	433FM
RL	7C076A80	NA	433FM
	[N]=exit	2/2	

to advance to next data screen or Press the N button to exit.

4) To delete the stored sensor data and enter the activation mode, Press the **Y** button.

6.6 Printing Audit Report

To print test results, ensure the tool is on and using the supplied USB cable connect it to a Windows computer. The Internet browser will open the TPMS report and display it onscreen. The vehicle make and model and the recorded TPMS data will display. If you wish, you can add additional information

v	ehicle Tested	: Mitsubishi L	ancer 20	013-2014				
	Test Pe Owners License Model (rformed Name: Plate I & Year:	By: No.:					
	Comme	ents:						
Wheel	BCM ID Hex	: BCM ID Dec	: ID Hex	ID Dec	Pressure	Temperature	Battery State	Mo-
FL FR	8D857ACF untested	2374335183 untested	B8220764 untested	30892378600 untested	240 Kpa untested	25 untested	OK untested	315 untest

such as technician and owners name and the vehicle information on the form. To print, go to File on the browser menu and select Print.

7. RKE & RF Testing (electronic key fob button testing)

The TS401 can also test electronic key fob buttons for remote vehicle entry. The tool can test 315 MHz and 433 MHz frequency fobs.

1) To test that a vehicle key fob is functioning, use the **DOWN** Arrow button to select **RKE & RF Monitor** from the Main Menu and press the **Y** button.

2) Hold the fob close to the top of the tool and press the fob function buttons one at a time. If the buttons work and the fob is sending a signal, the tool will beep and a signal strength bar will display. The stronger the signal, the higher the beep tone and the more complete the progression bar.

3) Press the **N** button to return to the previous menu.



RKE & RF Monitor
315MHZ Signal

8. Program MX-Sensors

The TS401 can program Autel MX-Sensors to replace OE sensors. MX-Sensors are available in 433 MHz and 315 MHz frequencies with metal and rubber valve stems.

MX-Sensors can be programmed in One Wheel Mode and All Wheels Mode.

8.1 All Wheels Mode: To program an MX-Sensor:

1) Select **Vehicle Selection** from the Main Menu by using the **UP** or **DOWN** Arrow buttons and then selecting the **Y** button.

2) Continue by selecting vehicle **MAKE**, **MODEL** and **YEAR**.

3) Using the **UP** or **DOWN** Arrow buttons, select the wheel on the vehicle diagram representing the wheel where the new sensor will be installed.

4) Press and Hold the **Y** button. The tool will display if a 315MHz or 433 MHz sensor is required for the vehicle. Place the correct MX-Sensor close to the front of the tool and press the **Y** button.









5) Next, the tool will display the auto-created sensor ID to be programmed. Press the **Y** button to program the sensor with the ID.

6) A progression bar displays programming status. A message will display when the sensor has been successfully programmed.

7) If needed, program additional sensors in the same manner.

8.2 One Wheel Mode

1) Select Vehicle Selection from the Main Menu by using the UP or DOWN Arrow buttons and then press the Y button.

2) Continue by selecting vehicle **MAKE**, **MODEL** and **YEAR**.

3) Press and hold the **Y** button to program the sensor for the wheel of the selected vehicle.

4) A screen will display the correct sensor (frequency type) to program for the selected vehicle and the sensor ID to be programmed.

5) Place the correct MX-Sensor close to the front of the tool and press and hold the **Y** button.







One Tire Programming
Freq = 315 MHz
[Y] = Programming
[N] = Exit
ID Number: OC206BF2 H

9. Relearn Sensors

1) Press the **?** button to display the relearn procedures for the specific vehicle. Use the **Down** Arrow button to advance to additional instructions if present.

Mitsubishi

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 Switch ignition to off and unplug the diagnostic tool.
 Check the instrument cluster.

Please note: Many European and Asian vehicles require TPMS sensor IDs be written directly to the TPMS module using a tool capable of connecting to the vehicle's OBDII port. The TS401 cannot perform this type of relearn.

10. 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 year from the date of the original purchase subject to the following terms and conditions:

- 1) The sole responsibility of Autel under this Warranty is limited to either the repair or, at the option of Autel, replacement of the TPMS tool at no charge with Proof of Purchase. The sales receipt may be used for this purpose.
- 2) This Warranty does not apply to damage directly or indirectly, to misuse, abuse, negligence, accidents, repairs or alterations outside Autel's Service Center or facilities, criminal activity, improper installation, normal wear and tear or lack of proper maintenance.
- 3) Autel shall not be liable for any incidental or consequential damages arising from the use, misuse or mounting of the TPMS tool. Some states do not allow time limitations on said implied warranty, so the above limitations may not apply to you.
- 4) All information contained within 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 amend this document any time without notice.

Service Procedures

If you have any questions, please contact your local store, distributor or visit our website at www.autel.com.

If it becomes necessary to return the tool for repair, contact your local distributor for more information.

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