

# 1. Safety Instructions

**IMPORTANT:** *To avoid electric shock, fire and/or personal injury or damage, please read this user's manual carefully and follow the safety instructions.*

## 1.1 Work Area Safety

- Always perform automotive testing in a safe environment.
- Keep your work area clean and well lit. Cluttered benches and dark areas may cause accidents.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Keep a fire extinguisher suitable for gasoline/ chemical/ electrical nearby.
- Operate the tool in a well-ventilated work area.
- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or heavy dust.
- Do not use the tool around corrosive chemicals which can damage the tool.
- Do not abuse the cable. Never use the cable to carry the tool.
- Keep bystanders, children and visitors away while operating the tool.
- Keep the tool dry, clean, free from oil, water and grease. Use a mild detergent on a clean cloth to clean the outside of the tool when necessary.

## 1.2 Electrical Safety

- Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.
- Do not expose the tool to rain or wet conditions. Water entering the tool will increase the risk of electric shock.
- Do not abuse the cable. Never use the cable for carrying, pulling, or unplugging the tool. Keep cable away from heat, oil, sharp edges or moving parts.

- If operating the tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) to protect supply.

### **1.3 Personal Safety**

- Do not use the tool while tired or under the influence of drugs, alcohol or medications. A moment of interruption can result in serious personal injury.
- Do not over-reach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.
- Always wear safety eye protection that meets ANSI standards.
- Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- Do not place the tool on any unstable cart or surface. The tool may fall causing serious injury to a person or serious damage to the tool itself.
- Turn off the instrument when not in use.
- Do not spill any liquid on the monitor. Liquid can lead to possible electrical shock as well as damage to the product.
- Do not use the tool for personal or medical use in any way.
- The product is not shock-resistant. Do not use it as a hammer or drop it.

## 2. Description, Specifications and Tool Components

### 2.1 Description

This premier Autel MaxiVideo™ MV301 digital videoscope features a detachable wireless 3.5" color TFT LCD monitor. The wireless capability aids you in examining difficult-to-reach areas from a remote location up to 32ft (10m). The ergonomic tool features comfortable pistol grip design, auto focus and viewing capacity as close as 1" with crystal clear output. Available with various sizes of camera heads (16mm, 8.5mm and 5.5mm), the MaxiVideo™ Videoscope is an economical solution to inspect machinery, facilities and infrastructure in the safest, fastest and most cost-effective manner possible.

### 2.2 Specifications

<b>Recommended use</b>	Indoor
<b>Optimal viewing distance</b>	1" to 14"(2.5 cm -35.6 cm)
<b>Image capture</b>	JPG Images (640 x 480)
<b>Image control</b>	Low Light Vision
<b>Screen type display</b>	3.5" TFT LCD

<b>Display resolution</b>	320 x 240
<b>Power supply</b>	Rechargeable Li-ion battery in monitor & 4 x AA batteries in camera
<b>Tested battery life</b>	4-5 hours of continuous use
<b>Transmission range</b>	32ft (10m) unobstructed view
<b>Bandwidth</b>	18MHz
<b>Transmission Frequency</b>	2468MHz
<b>Camera Head</b>	16mm(0.63")/ 8.5mm(0.33")/5.5mm(0.22")
<b>Lighting</b>	Fully adjustable LED
<b>Imager head</b>	8.5mm (0.33") is standard; 16mm (0.63") and 5.5mm (0.22") are optional.
<b>Waterproof</b>	Camera & Cable to 3m(10')
<b>Operating temp.</b>	Main Unit: 32°F to 113°F(0°C to 45°C) Cable: 14°F to 176 °F(-10°C to 80°C)
<b>Storage temp.</b>	-4°F to 158 °F(-20°C to 70°C)
<b>Video output</b>	RCA
<b>Cable reach</b>	1m(3')-expandable to 5m(16') w/Optional Extensions

## 2.3 Accessories Included

- 1) Blow molded case
- 2) AC adapter
- 3) User's Manual
- 4) Imager head and cable (16mm /8.5mm/5.5mm)
- 5) Magnet, hook and mirror
- 6) 4 x AA Batteries
- 7) Video-out cable

## 2.4 Tool Components

The MaxiVideo™ MV301 comes with the following items. Here 8.5mm diameter imager head and its matching accessories

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magnet, hook and mirror are shown below as an example.

*Note: Because of continuing improvements, actual product may differ slightly from photo.*

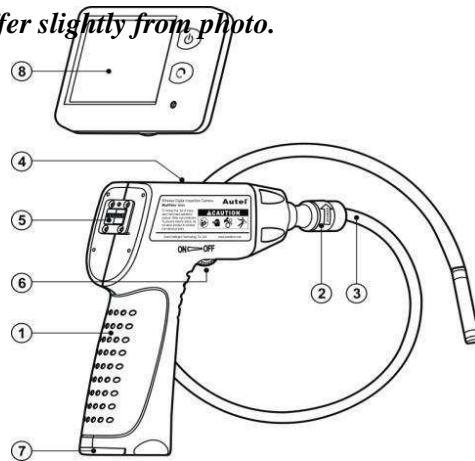


Fig. 1

- 1) **Handheld Display Unit-** The ergonomic tool with comfortable pistol grip design.
- 2) **Cable Connector** – Connects the handheld display unit to the imager head and cable.
- 3) **Imager Head and Cable** – Connects to the instrument while in use to view images and videos.
- 4) **Power Indicator Light** – Illuminates green once the tool is turned on.
- 5) **Tool's Signal Output-** Connects to the monitors signal input to function properly.
- 6) **Roll Switch-** Turns on the power of the tool and adjust brightness of LEDs.
- 7) **Battery Compartment Cap** – Indicates to install or remove batteries.
- 8) **LCD Screen** – Indicates test results. Backlit, 320x240 pixels display with LED lighting adjustment.
- 9) **Accessory Magnet** – Picks up metal objects such as dropped rings or screws on the floor.
- 10) **Accessory Mirror** – Helps users look around corners and see inside the unreachable areas.
- 11) **Accessory Hook** – Unclogs obstacles and picks up wires in the pipes or confined areas.

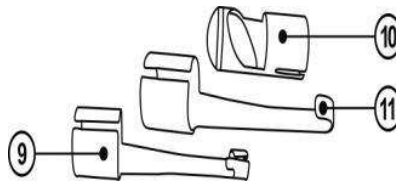


Fig. 2

## 2.5 Buttons and Controls

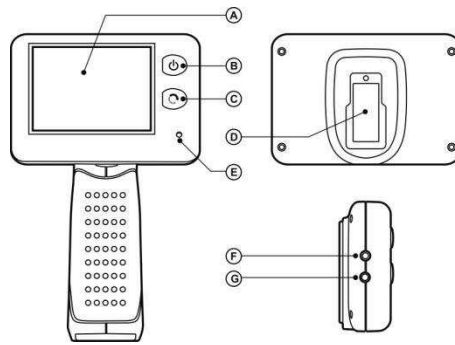


Fig. 3

- A. **LCD Screen** – Indicates test results. Backlit, 320x240 pixels display with LED lighting adjustment.
- B. **Power Button** – Turns on/off the tool.
- C. **Reverse Button** – Controls the direction of the real-time image.
- D. **Monitor's Signal Input**- Connects to the tool's signal output to function properly.
- E. **Monitor's Power Light Indicator**- Illuminates green once the monitor is turned on.
- F. **Video-Out Port** – Connects the tool to a TV with the supplied video-out cable to view real-time images.
- G. **AC Adapter Port** - Charges the monitor using an AC adapter

## 3. Installation

### 3.1 Battery Removal and Installation

**NOTE: If the power indicator light is blinking continuously, this reminds you to replace batteries in time as instructed.**

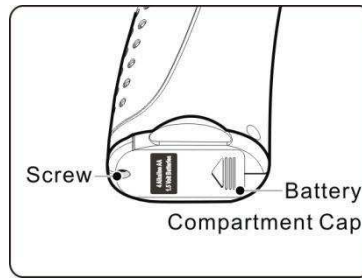


Fig. 4

- 1) Turn the handheld display unit upside down to expose the battery compartment cap and screw (**Fig. 4**).
- 2) Use a screwdriver to remove screw and battery compartment cap.
- 3) Battery removal and installation.

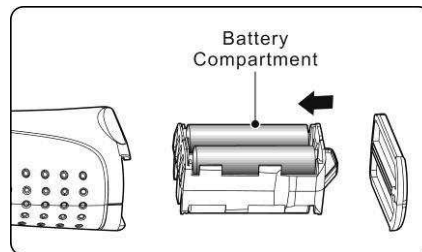


Fig. 5

- ✓ To remove the batteries, hold handheld display unit to remove the battery compartment and then remove batteries (**Fig. 5**).
- ✓ To install the batteries, remove the battery compartment and insert four (4) new AA batteries

- into the proper slots in the battery compartment.
- 4) Proper battery orientation is indicated in the battery compartment.
  - 5) Replace the battery compartment and screw using a screwdriver to close the battery compartment cap.

### 3.2 The Imager Head and Cable Installation

To use the tool, the imager head and cable must be connected to the handheld display unit. To connect the cable to the handheld display unit, make sure the key and slot (*Fig. 6*) are properly aligned. Once they are aligned, finger-tighten the knurled knob to hold the connection firmly in place.

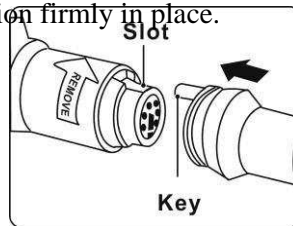


Fig. 6

**Warning:** Ensure to only tighten or loosen the knurled knob and not the shaft

### 3.3 Accessories Installation

The three accessories include magnet, hook and mirror (*Fig. 2*).

All are attached to the imager head in the same manner. Hold the accessory and the imager head as shown in (*Fig. 7*), slip the end of the accessory over the flats of the imager head and then fix the accessory as shown in (*Fig.8*).

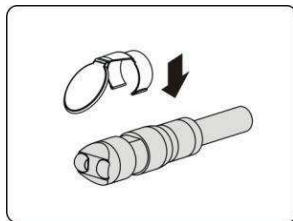


Fig. 7

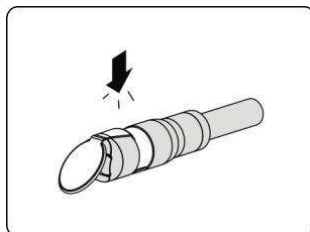


Fig. 8

### 3.4 Video-Out Cable Connection

Insert the supplied video-out cable into the video-out port of the tool, and the other end of the cable into the video-in port of a TV, the LCD screen will output a high quality real-time image.

### 3.5 LCD Monitor Installation

Correctly align the connecting areas and gently slide the monitor downward so that the monitor is securely attached to the instrument as indicated below.

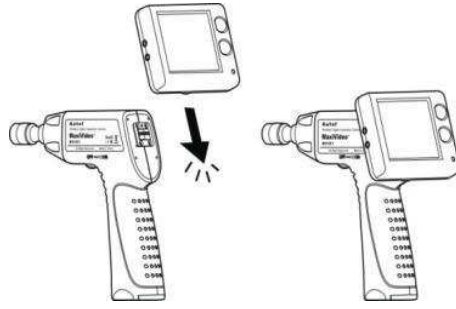


Fig 9

### 3.6 Monitor Charging

LCD monitor can be charged by connecting to a wall outlet using an AC adaptor. Plug the AC adapter into the AC outlet. Once the AC adapter is plugged in, the lithium-ion battery will begin charging, with the red light indicator on during charging. Once the battery is fully charged, it will turn off automatically, with the green light indicator on. If the monitor is charged without the lithium-ion battery being installed, the green light indicator and the red light indicator would be on and flash, respectively.

**Note:** *The monitor can be used while charging.*

## 4. Operation Instructions

### 4.1 Basic Operation

**NOTE:** *When in operation, the cable can be bent into a certain shape. This may help you operate the cable into confined areas.*

**CAUTION:** *Keep the cable away from heat, oil, sharp edges or moving parts. Replace damaged cables immediately.*

(1) To turn the tool on, hold the handheld display unit with

LCD screen facing you.

(2) Press **Power** button to turn on the screen. The power indicator light will illuminate green. The real-time image will appear on the LCD screen.

(3) Roll the on/off switch to start the camera. This switch also serves as a dimmer for LEDs which provide superb quality lighting (*See below*).

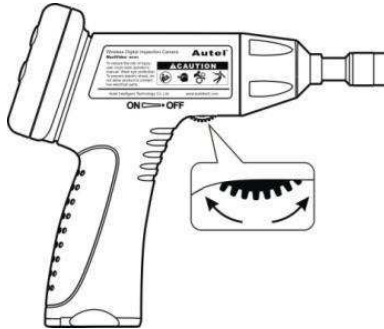


Fig. 10

(4) Press **Reverse** button to control the direction of the real-time image. The real-time image will do a horizontal reverse or vertical reverse (*See Fig. 11*).

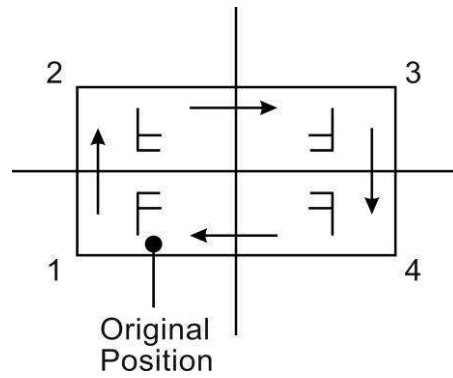


Fig. 11

- (5) Use the supplied accessories to provide application flexibility.
- (6) Connect the supplied video-out cable to video-out port of the tool and the other end of the cable to the video-in port of a TV to view a high quality real-time image.
- (7) Detachable 3.5" TFT-LCD wireless monitor allows for remote inspection up to 32ft (10m) from the measuring point (**Fig.12**).

**Note:** The shaft provided is flexible and bendable which helps you to explore into difficult-to-reach and confined areas.

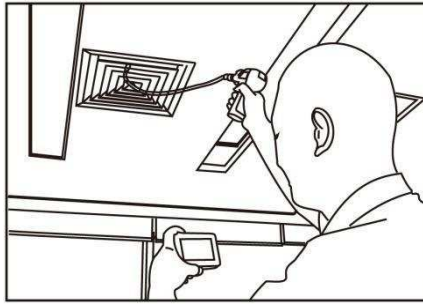


Fig. 12

**Attention:** when the camera is in wireless mode, both the monitor and the tool will expend their batteries. When the camera is in wired mode, only the lithium-ion battery in the monitor is used.

## 4.2 Operation Precautions

**CAUTION:** *Do not put the tool into anything or anywhere that may contain a live electrical charge.*

- Do not operate the tool unless the user's manual has been read thoroughly and proper training has been completed.
- Do not immerse the handheld display unit in water. Reduce the risk of electric shock and damage.
- Do not use the tool if condensation forms inside the imager head. Let the water evaporate before using again.
- Do not use excessive force to insert or withdraw the cable.
- Do not use the imager head and cable to modify surroundings, clear pathways or clogged areas.

- The handheld display unit is not waterproof. The imager head and its cover are waterproof, but not acid-proof or fireproof. Avoid submersing the imager head into corrosive, oily places and be sure to keep the imager head away from high temperature objects.
- Do not put the imager head and cable into anything or anywhere that may contain a live electrical charge.
- If the tool does not work well after turning it on. Please take batteries out and do not use. Please have the tool checked by a qualified technician. Any tool that cannot be controlled with the power button is dangerous and must be repaired.
- Store idle components out of the reach of children and other untrained persons.
- Maintain the tool with care. Properly maintained tools are less likely to cause injury.
- If the tool is dropped, check for the breakage and any other conditions that may affect its operation.
- Use only accessories that are recommended by the manufacturer of the tool.
- Dry your hands when operating the tool or replacing batteries.
- Protect against excessive heat. The tool should be kept away from heat sources such as radiators, stoves or others that produce heat.
- Store the tool in ventilated and dry places.
- The flexible tube is not subject to sharp angle bends and such act may cause permanent damage to the shaft.

**NOTE: Please check following methods to avoid injury.**

- ✓ **FOR PIPES:** If you suspect a metal pipe could contain a live electrical charge, have a qualified electrician to check the pipe before using.
- ✓ **FOR WALLS:** For inspecting the inside walls, be sure to turn off the circuit breaker to the whole house before using the tool.
- ✓ **FOR AUTOMOBILES:** Make sure the vehicle is not running during the inspection. Metal and liquid under the hood may be hot. Don't get oil or gas on the imager head.

### **4.3 Battery Precautions**

- Remove the batteries while cleaning the tool.
- When necessary, replace all four (4) batteries with new ones.
- Use only the size and type of batteries specified.
- Properly dispose of batteries. Exposure to high temperatures can cause batteries to explode. Do not dispose in fire.
- The AC adapter is only used for charging the monitor
- Be sure to install batteries with the correct polarity as indicated in the battery compartment.
- Remove the batteries before storing the tool for a long period of time to prevent battery leakage from damaging battery compartment.

## 4.4 Maintenance Instructions

*NOTE: Make sure the batteries have been removed from the tool before performing maintenance.*

- Tool maintenance must be performed only by qualified repair personnel. Maintenance performed by unqualified repair personnel could cause injury.
- When maintaining, use only identical replacement components.
- Do not attempt to take any pieces of the tool apart unless directed by the manual.
- Do not use acetone to clean the tool. Instead, use alcohol. Avoid rubbing too hard on the LCD screen. After using, wipe the display unit clean gently with a dry cloth.
- Upon the completion of any maintenance of the tool, ask qualified repair personnel to perform safety check to see if the tool is in proper operating condition.
- Stop using the tool if it starts smoking or emitting noxious fumes.
- Always handle the tool with care. It is not shock-resistant and should not be banged or dropped.
- Do not disassemble the tool beyond what is shown in the manual. Doing so will void your warranty.
- Follow instructions to replace accessories.

## 5. Troubleshooting

SYMPTOMS	POSSIBLE REASONS	SOLUTIONS
Display unit is on, but does not show image.	Cable connection is loose.	Check if it is covered by debris.
	Imager head is covered by debris.	Check and reattach.
	Monitor is obstructed by objects	Remove obstructing objects
LED on imager head are dim at max brightness, display changes	Batteries are low.	Replace batteries.
between black/white and color, display turns itself OFF after a short period. The tool will not turn on.	Dead batteries.	Replace batteries.
	Batteries are not properly installed.	Check to see if the batteries are installed with correct polarity as indicated.

Image too dim or too dark	LEDs near camera require adjustment	Use the roll switch to adjust brightness
Monitor will not charge	Cable are not accurately connected	Ensure adapter cable is connected between monitor and adapter
	Adapter is not connected to power	Ensure adapter is plugged into the wall socket

## 6. Warranty Information

### 6.1 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:

- 1) The sole responsibility of Autel under the Warranty is limited to either the repair or, at the option of Autel, replacement of the 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 tool.
- 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.

## **6.2 Service Procedures**

If you have any questions, please contact us.

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