



# USER MANUAL

V200 AUTOMOTIVE CIRCUIT PROBE TESTER



## Safety Information

To ensure your safety and prevent damage to the device or vehicle, please carefully read and follow all instructions in this manual before use.

When operating the device, always verify proper testing procedures and strictly adhere to the instructions provided. As automotive electrical systems may vary, you must assess potential risks and ensure a safe testing environment.

Always observe all safety warnings, use appropriate tools, and disconnect power sources when necessary. Improper operation may result in personal injury, equipment damage, or voided warranty.

### Safety Messages

Safety messages use standardized signal words to indicate hazard levels and prevent injuries or equipment damage:

#### **DANGER**

*Will result in death or serious injury if ignored*

Indicates an immediately life-threatening hazard.

#### **WARNING**

*Could result in death or serious injury if ignored*

Indicates a potentially dangerous situation.

### Safety Instructions

This manual covers known safety hazards, but cannot anticipate all possible risks. You are responsible for ensuring safe operating conditions and procedures.

#### **DANGER**

- Always ventilate the service area when engine is running or use building exhaust removal system if available
- Carbon monoxide is odorless and deadly - can cause loss of consciousness or death

## **WARNINGS**

- Always keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.
- Never operate or observe the tool while driving—distraction can lead to fatal accidents.
- Keep clothing, hair, hands, tools, and test equipment away from moving or hot engine parts.
- Perform automotive testing only in a safe, controlled environment.
- Ensure proper ventilation—exhaust gases are poisonous.
- Never connect or disconnect test equipment while the ignition is ON or the engine is running.
- Place wheel chocks in front of drive wheels and never leave the vehicle unattended during testing.
- Wear ANSI-approved safety eye protection at all times.
- Exercise extreme caution around ignition coils, distributor caps, spark plugs, and wires—high voltage is present when the engine is running.
- Before testing, ensure the transmission is in P (A/T) or Neutral (M/T) and the parking brake is engaged.
- Keep the scan tool clean and dry; avoid contact with oil, water, or grease. Clean only with a mild detergent and soft cloth.
- Do not modify, disassemble, or expose the tool to extreme temperatures or moisture.
- This tool is not a substitute for professional diagnostic equipment—use with caution.
- The manufacturer is not liable for damages caused by misuse, negligence, or unauthorized modifications.

## **Legal Information**

### **Trademarks**

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## **Disclaimer & Liability Statement**

### **Product Documentation Notice**

All illustrations, specifications, and technical data in this manual are for reference only and subject to change without notice.

For the latest documentation, visit:

<https://www.vdiagtool.com/support/downloads>

### **Limitation of Liability**

VDIAGTOOL expressly disclaims all liability for:

- Any direct, indirect, incidental, or consequential damages
- Loss of profits or business interruption
- Product modifications or unauthorized use

This manual does not:

- Modify existing purchase/lease agreements
- Create additional liabilities for VDIAGTOOL
- Constitute additional product warranties

### **IMPORTANT:**

Always consult this manual before operation, with special attention to all safety warnings. VDIAGTOOL reserves the right to modify product specifications at any time.

## **Product Support & Training Resources**

### **Technical Support**

- Official Website: [www.vdiagtool.com](http://www.vdiagtool.com)
- Support Email: [support@vdiagtool.com](mailto:support@vdiagtool.com)
- US Hotline: +1-213-355-7171
- Online Form: <https://www.vdiagtool.com/support/tech-support>

## **Training Videos**

Free product operation videos:

1. Visit Training Center:

<https://www.vdiagtool.com/support/training-center>

2. Select **Circuit Testers** category

3. Watch model-specific tutorials

## Contents

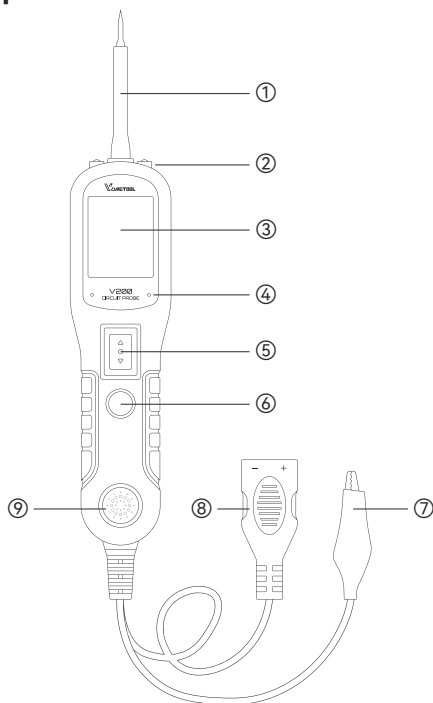
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## 1. Product Overview

### 1.1 Specifications

Display	TFT Color Display (168×128 dpi)
DC Voltage Range	0V – 65V ±1 Digit
Resistance Range	0 – 100 kΩ
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
External Power	12V/24V DC (Vehicle Battery)
Dimensions (L × W × H)	188 × 48 × 25 mm (7.4 × 1.88 × 0.98 in)
Material	Plastic Housing

### 1.2 Tool Description



- ① **Probe Tip** - Contacts the circuit or component to be tested.
- ② **LED Work Light** - Illuminates dark work environments
- ③ **LCD Display** - Real-time measurement readout
- ④ **Polarity Indicator (Red/Green)** - Circuit polarity detection:
  - Red: Positive voltage detected
  - Green: Negative voltage detected
- ⑤ **Power Switch** - Allows you to conduct a positive or negative battery current to the tip for activating and testing the function of electrical components.
- ⑥ **Mode Button** - Toggles between:
  - AC Voltage • DC Voltage • Resistance • Diode Test
- ⑦ **Ground Clip** - Provides auxiliary grounding for stable measurements
- ⑧ **Adapter** - Connect to the battery
- ⑨ **Loudspeaker** - Alert prompt

### 1.3 Included Parts List

Part	Quantity
Cigarette Lighter Adapter	1
Battery Hookup Clips	1
Probe Tip	1
Extension Cable(20ft.)	1
Rugged Blow Molded Case	1
Power Assist Cable	1
User Manual	1

## 2. General Description

The tool is the best electrical tester for reducing diagnostic time in all 6 to 30-volt vehicle electrical systems. After a simple hook-up of the tool to the vehicle's battery, you can:

- Determine at a glance if a circuit is positive, negative, or open without having to reconnect clips from one battery pole to another.
- Test for continuity with its built-in auxiliary ground lead.
- By depressing the power switch, conduct a positive or negative battery current to the probe tip for testing the function of an electrical component without the use of jumper wires.

- Test for poor ground contacts instantly without performing voltage drop tests. The tool is also short-circuit protected; its internal circuit breaker will trip if it becomes overloaded.
- Follow and locate short circuits without wasting fuses. The tool's long cable allows you to test along the entire length of the vehicle without constantly searching for suitable vehicle grounds.

### 2.1 Power

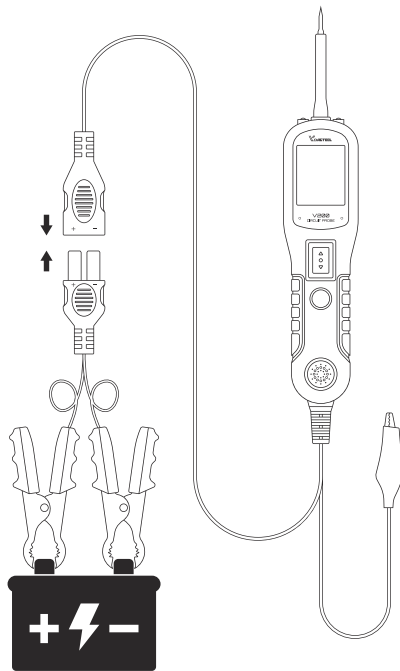
The tool is powered via the vehicle battery. Connect the RED battery clamp to the POSITIVE terminal of the vehicle's battery, and the BLACK clamp to the NEGATIVE terminal. When the tool is first connected to a battery (power source), it will sound a beep and the Head Lights will be on to illuminate the test area of the probe tip.

### 2.2 Quick Self-Test

Before you test a circuit or component, be sure your tool is in good order by doing a quick self-test.

With the tool connected, perform a quick self-test. The power switch is a momentary rocker switch located on the tool's body. Flanking the switch are positive and negative markings.

Press the power switch forward to activate the tip with a positive voltage. The Red LED should light up and LCD display will read the battery voltage. A beep tone will sound. Let go of the power switch and the LED will turn off and the tone will cease. Press the power switch backward to activate the tip with a negative voltage. The green LED should light up and the LCD display will read 0.0V (ground). A beep tone will sound. Let go of the power switch and the LED will turn off and the tone will cease. Your tool is working correctly and is now ready for use.



**IMPORTANT:** To extend switch lifespan, always press the power switch before contacting the probe tip to components. This ensures any arcing occurs at the tip rather than the switch contacts.

### 3. Circuit Breaker

The tool features built-in short-circuit protection with an auto-reset circuit breaker that trips during overloads, serving as both a safety mechanism and diagnostic aid.

When tripped, the breaker cuts power output while maintaining all other functions - you can still test circuits and read voltages, but battery current won't flow to the probe tip even if the power switch is pressed.

This design provides dual protection: preventing tool damage from overloads while creating a failsafe mode for sensitive electronics testing.

Technicians can intentionally trip the breaker as an extra precaution when working on delicate circuits, effectively disabling power output while preserving measurement capabilities.

The auto-reset function ensures continuous protection - simply release the power switch to restore normal operation after troubleshooting.

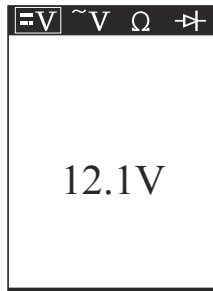
This intelligent protection system allows safe testing in all scenarios while preventing accidental damage to vehicle electronics.

### 4. Work Mode

The tool offers four diagnostic modes, which can be selected by pressing the Mode button to cycle through them.

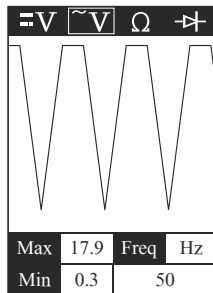
#### DC voltage

In this mode, touch the probe tip to a circuit. The LCD will display the DC voltage with 0.1V resolution.



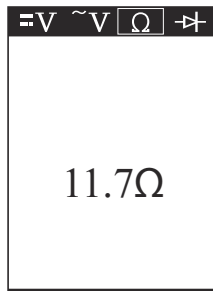
#### AC voltage

In this mode, touch the probe tip to a circuit. The LCD will display the **maximum voltage**, **minimum voltage**, and **frequency**.



## Resistance

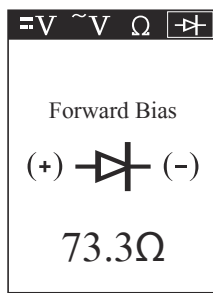
In this mode, touch the probe tip to a circuit. The LCD will show the resistance between the probe tip and the auxiliary ground lead.



## Diode

In this mode:

- Connect the **probe tip** to the **positive terminal** of the diode.
- Connect the **auxiliary ground lead** to the **negative terminal**.
- The screen will display the **forward voltage drop**, indicating correct forward bias.
- If you reverse the connections (tip to negative, ground lead to positive), the screen will not display a voltage, indicating correct reverse bias.

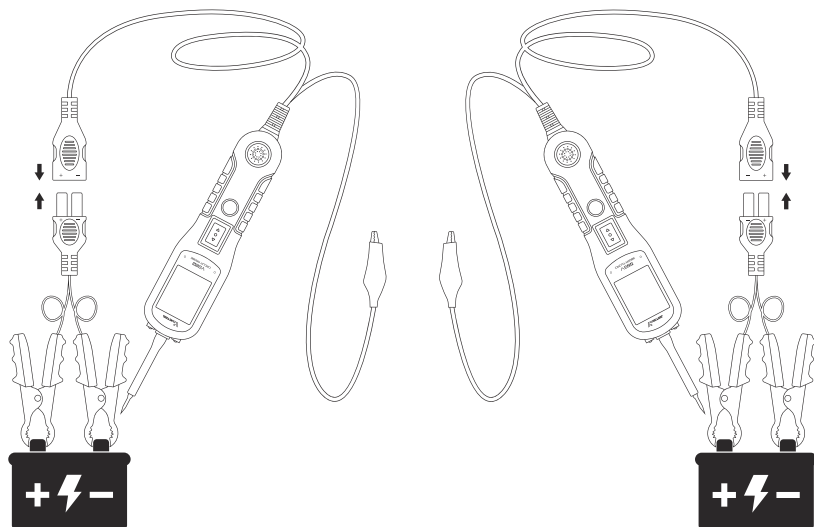


## 5. Operating Instructions

### 5.1 Voltage Test

In DC Voltage mode, the probe tip detects circuit status with 0.1V resolution:

- Contact with a positive circuit activates the red LED, displays voltage (e.g. 12.3V), and sounds a confirmation beep
- Contact with a negative circuit activates the green LED, displays voltage (e.g. -12.3V), and sounds a confirmation beep
- An open circuit shows no LED activation while maintaining 0.1V measurement precision.



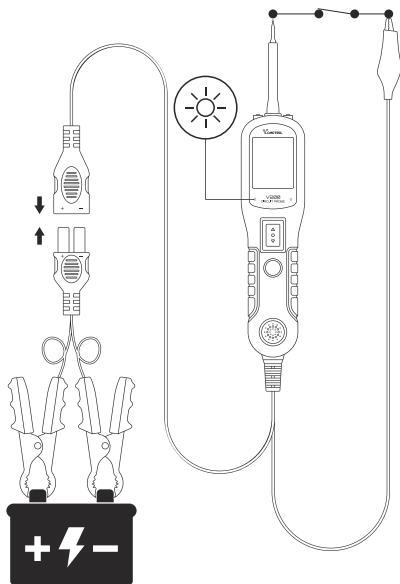
### 5.2 Continuity Testing

In Resistance mode, the probe tip and auxiliary ground lead enable continuity testing of both connected and disconnected circuits:

#### Test Interpretation:

- Good continuity ( $\leq 1\Omega$ ):

Displays "0.0 $\Omega$ " + green LED + continuous beep



- Measurable resistance ( $1\Omega$ - $100k\Omega$ ):

Shows actual resistance value

- Open circuit ( $> 100k\Omega$ ):

Displays "OL" (Over Limit)

#### Alternative Ground Verification:

Briefly activate power switch - circuit breaker tripping confirms a low-resistance ( $< 1\Omega$ ) ground/battery connection.

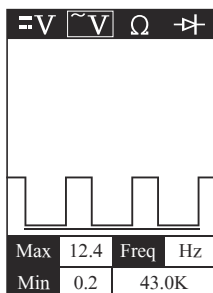
**Important:**

The insulated probe tip safely pierces wires (up to 18AWG) for in-circuit testing without disassembly.

**5.3 Signal Circuit Testing**

When you retrieve a DTC related to a sensor circuit (like a MAP sensor), you can quickly test the circuit as follows:

- (1) Set your diagnostic tool to AC Voltage mode. Connect the probe tip to the sensor's positive terminal and attach the ground lead.
- (2) Connect a vacuum pump to the MAP sensor.
- (3) With the probe touching the sensor's positive terminal, observe the LCD display - it should show a sine wave under normal conditions.
- (4) Apply vacuum to the sensor.
- (5) Release the vacuum and monitor the LCD readings.



If the readings are abnormal, there is likely an issue with the sensor.

**Note:** Always refer to your specific diagnostic tool's manual for exact procedures.

**5.4 Activating Components in Your Hand**

The tool allows you to test and activate handheld components such as bulbs, motors, or relays directly. This function helps verify component functionality before installation or during troubleshooting.

To perform the test, follow these steps:

- (1) Connect the auxiliary ground lead to the negative terminal or ground side of the component.

(2) Touch the probe tip to the positive terminal of the component. The display will show green, confirming continuity through the component.

(3) Briefly press and release the power switch forward. If the display changes from green to red, the component is ready for activation.

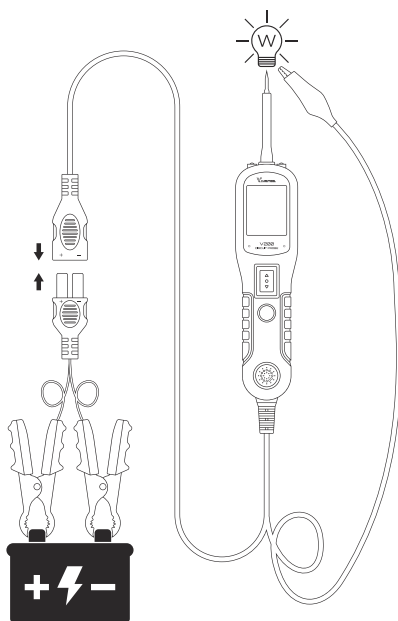
(4) Hold the power switch forward to deliver power to the component. Current will flow from the tool's probe through the component and back via the ground connection.

For example, when testing a bulb:

(1) Connect the ground clip to the bulb's base (negative side).

(2) Touch the probe tip to the bulb's center contact (positive side).

(3) Hold the power switch forward to illuminate the bulb.



If the display turns off or the circuit breaker trips, the tool has detected an overload.

This could happen because:

(1) The contact you're probing is direct ground or negative voltage

(2) The component being tested is short-circuited

(3) It's a high-current component (e.g. starter motor)

To reset, simply wait about 15 seconds for the breaker to cool down before continuing testing.

### 5.5 Activating Components in The Vehicle

To safely activate components while installed in the vehicle, first set the tool to DC Voltage mode and touch the probe tip to the component's positive terminal. The display will show green if proper ground continuity exists. Briefly press and release the power switch - if the display changes from green to red, it is safe to proceed with activation. If the display turns off or the protection activates immediately, this indicates an overload condition.

This could happen for the following reasons:

- (1) The contact you are probing is a direct ground
- (2) The component you are testing is short-circuited
- (3) The component is a very high current component (i.e., starter motor)

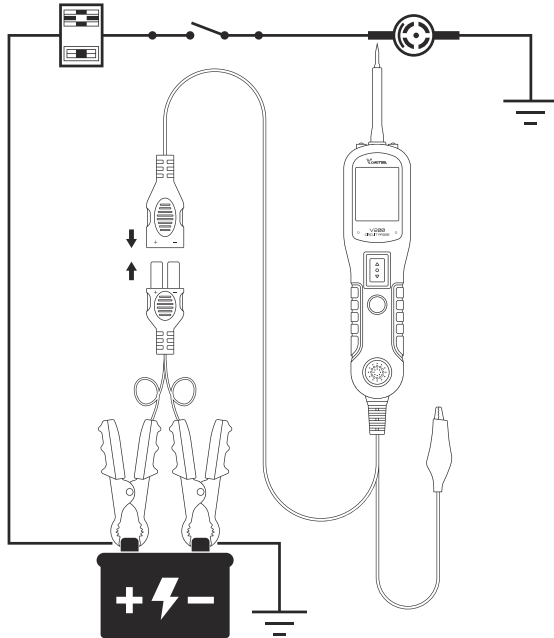
If the circuit breaker trips, wait 15 seconds for it to reset automatically.

#### **WARNING:**

Improper voltage application may damage sensitive vehicle electronics. Always consult the manufacturer's wiring diagrams and diagnostic procedures before testing.

#### **NOTE:**

To prolong switch life, press and hold the power switch before contacting the component. This directs any electrical arcing to the probe tip rather than the switch contacts.



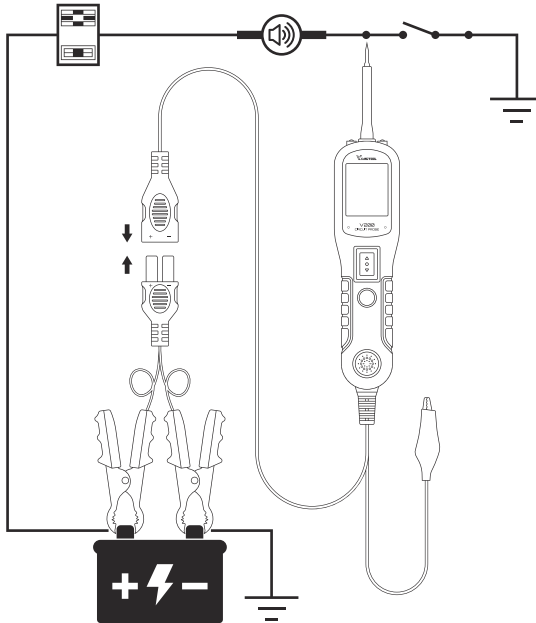
### 5.6 Activating Components w/Ground

To activate components using ground connection, begin by setting the tool to DC Voltage mode and touching the probe tip to the component's negative terminal. The display will show red when a valid ground connection is detected. Briefly press and release the power switch backward - if the display changes from red to green, you may proceed with activation. If the display turns off or the protection activates, this indicates an overload condition.

This could happen for the following reasons:

- (1) The contact you are probing is a direct positive voltage source
- (2) The component you are testing is short-circuited
- (3) The component is a very high current component (e.g., starter motor)

If the circuit breaker trips, wait 15 seconds for it to reset automatically.



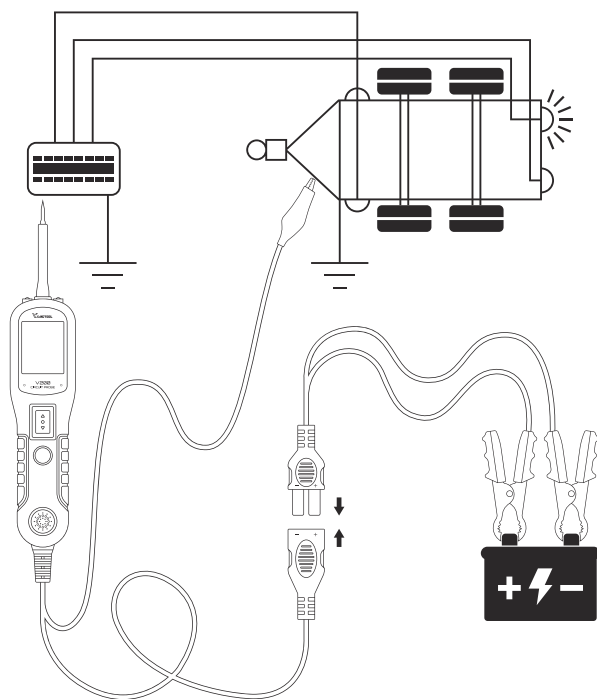
### **WARNING:**

When using this function, applying ground to a protected circuit may blow or trip the vehicle's fuse.

### **5.7 Testing Trailer Lights and Connections**

When the tool in DC Voltage mode, clip the auxiliary ground lead to the trailer ground, probe the contacts at the jack and then apply voltage to the probe tip. This allows you check the function and orientation of the connector and trailer lights.

If the circuit breaker tripped, that contact is likely a ground. Reset the circuit breaker by letting it cool down for 15 seconds.



## 5.8 Red/Green Polarity LED

The Red/Green Polarity LED lights up when the probe tip voltage matches the battery within  $\pm 0.4$  volts. It is added information that could be valuable to the technician.

If the circuit you are testing is not within a 0.4 volt (plus or minus) of supply voltage, you will see the voltage reading on the LCD but you will not hear a tone or see a red or green LED.

This tells you either you have a voltage drop in excess of 0.8 volt from battery voltage or you are probing a circuit that has an increase of a 0.8 volt or more over battery voltage. To determine battery voltage, simply remove the tip from the circuit and press the power switch forward. Battery voltage will then be displayed on the LCD. The difference between the battery voltage and what is read on the circuit is either voltage drop or voltage increase. This allows you to determine a voltage drop without running back to check the battery.

It's just another one of time saving feature the circuit probe has.

### 5.9 Following & Locating Short Circuits

When a short circuit occurs, it usually causes a fuse to blow or a circuit breaker to trip. This is the best place to start troubleshooting.

(1) **Remove the blown fuse** from the fuse box.

(2) Use the **probe tip to energize each fuse terminal**. The terminal that **trips the tool's circuit breaker** indicates the shorted circuit. Take note of the wire's **color or identification code**.

(3) **Follow the wire** along the harness as far as possible. Pierce the insulation with the probe tip and press the **power switch forward**.

(4) If the **circuit breaker trips**, the short is in that direction.

(5) **Cut the wire** and energize both ends. The end that trips the breaker again leads to the short. Repeat this process until the fault is located.

#### Example:

If there's a short in the brake light circuit, start at the fuse box. Identify the brake light circuit wire by its color. Probe along the harness, such as through the door sill area, where wires often run. Energize the wire step-by-step. When the circuit breaker trips, you've confirmed the short is in that direction. Cut the wire if necessary and continue probing both sides until the fault is located.

### 5.10 Checking for Bad Ground Contacts

The tool can help quickly verify whether a ground contact is good or faulty.

(1) Use the **probe tip** to contact the suspected ground point (such as a ground wire, chassis, or connector).

(2) Check the **screen display**:

If the screen turns **green** and a **beep** sounds, the point likely has a ground connection.

(3) To confirm, press the power switch forward briefly, then release it:

- If the the screen turns **red** and a beep sounds, this means the point is **not a true ground**—it has voltage or a bad connection.

- If the **circuit breaker trips**, it confirms that the point is a **solid ground**, because the tool delivered battery voltage to ground, caus-

ing the protection to activate.

**Note:** The circuit breaker may also trip if the point is connected to a **high-current component** (e.g., starter motor), which is normal in that case.

## 6. Circuit Breaker Finder Safety Information

### Is the Tool Computer and Airbag Safe?

The circuit tester LED and LCD pull no more than 1 millamp of current, therefore when using it as a test light or multimeter, it is computer and airbag safe. However, pressing the power switch is a different story. When you press the switch forward, you are conducting full battery current to the tip of the probe. There is a nice safety feature built into the tool. Simply connect the extra ground lead to the circuit breaker finder and press the power switch forward until it trips the circuit breaker. This will prevent power from going to the tip but still allow you to use the tool as a multimeter. When you are away from computer components, simply press the reset button and you are ready to power up again.

## 7. Warranty and Service

### Limited Three Years Warranty

VDIAGTOOL warrants the V200 product against defects in materials and workmanship for thirty-six (36) months from the date of delivery to the original purchaser for commercial or business use. This warranty does not cover damage resulting from misuse, unauthorized modification, improper maintenance, or operation outside specified conditions. VDIAGTOOL's sole liability shall be limited to repair or replacement of defective components at its discretion. Consequential, incidental, or other damages are expressly excluded. Some jurisdictions may not permit certain limitations of liability.

## 8. Contact Us

### Warranty & Support

Email: [support@vdiagtool.com](mailto:support@vdiagtool.com)

Website: [www.vdiagtool.com](http://www.vdiagtool.com)

**For wholesale business or become our distributors:**

Email: [sales@vdiagtool.com](mailto:sales@vdiagtool.com)

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