Power Probe Basic Ultimate in Circuit Testing User Manual

Power Probe Basic
User Manual

The Ultimate in Circuit Testing

Contents

INTRODUCTION

Thank you for purchasing the Power Probe Basic. It's your best value for testing automotive electrical problems. After connecting it to the vehicle's battery you can now see if a circuit is Positive, Negative or Open by probing it and observing the RED or GREEN LED. You can quickly activate electric components with the press of the power switch and YES, its short circuit protected. Continuity of switches, relays, diodes, fuses and wires are easily tested by connecting them between the auxiliary ground lead and the probe tip and observing the GREEN LED. Check

fuses and test for short circuits. Find faulty ground connections instantly. The 20 ft. long lead will reach from bumper to bumper and it has the option to connect a 20 foot extension lead to make it reach up to 40 feet. Great for trucks, trailers and motorhomes.
Before using the Power Probe Basic, please read the instruction book carefully.

WARNING!

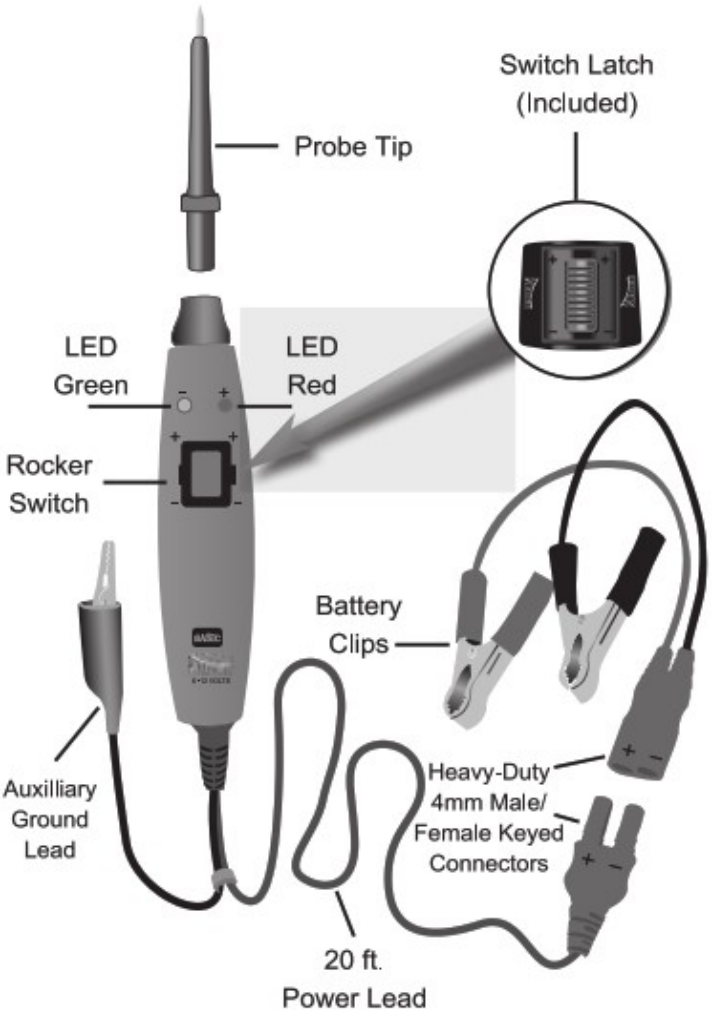
When the Power Switch is depressed battery current is conducted directly to the tip which may cause sparks when contacting ground or certain circuits. Therefore the Power Probe should NOT be used around flammables such as gasoline or its vapors. The spark of an energized Power Probe could ignite these vapors. Use the same caution as you would when using an arc welder.
The Power Probe Basic is NOT designed to be used with 110/220 AC-volt house current, it is only for use with 6-12 VDC systems.

SAFETY

Caution – Please Read
To avoid possible electric shock or personal injury and to avoid damage to this unit, please use the Power Probe Basic according to the following safety procedures. Power Probe recommends reading this manual before using the Power Probe Basic.
The Power Probe BASIC is strictly designed for automotive electrical systems. It is to be used on 6 to 12 volt DC only. The power switch should not be pressed when connected to electronic control modules, sensors or any sensitive electronic components. DO NOT connect the Power Probe to AC house electrical such as 115 Volts.

- Do not connect to electrical system with higher than rated voltage specified in this manual.
- Do not test voltage exceeding the rated voltage on the Power Probe Basic.
- Check the PP Basic for cracks or damage. Damage to the case can leak high voltage causing a potential electrocution risk.
- Check the PP Basic for any insulation damage or bare wires. If damaged, do not use the tool, please contact Power Probe Technical support.
- Use only shrouded leads and accessories authorized by Power Probe to minimize exposed conductive electrical connections to eliminate shock hazard.
- Do not attempt to open the PP Basic, no serviceable parts are inside. Opening this unit voids the warranty. All repairs should only be erformed by authorized Power Probe service centers.
- When maintaining the Power Probe, use only replacement parts certified by the manufacturer.
- Use only in well ventilated areas. Do not operate around flammable materials, vapor or dust.
- Be careful when energizing components that have moving parts, assemblies containing motors or high powered solenoids.
- Power Probe, Inc. shall not be liable for damage to vehicles or components cause by misuse, tampering or accident.
- Power Probe, Inc. shall not be liable for any harm caused by accidents, intentional misuse of our products or tools.
- If you have any questions, please go to our website at: **www.powerprobe.com**.

FEATURES



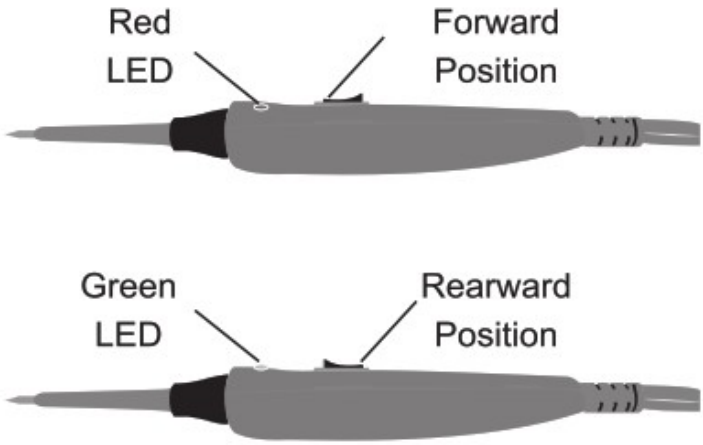
HOOK-UP

- Unroll the Power Cable.

  Attach the RED battery hook-up clip to the POSITIVE terminal of the vehicle’s battery.
- Attach the BLACK battery hook-up clip to the NEGATIVE terminal of the vehicle’s battery.

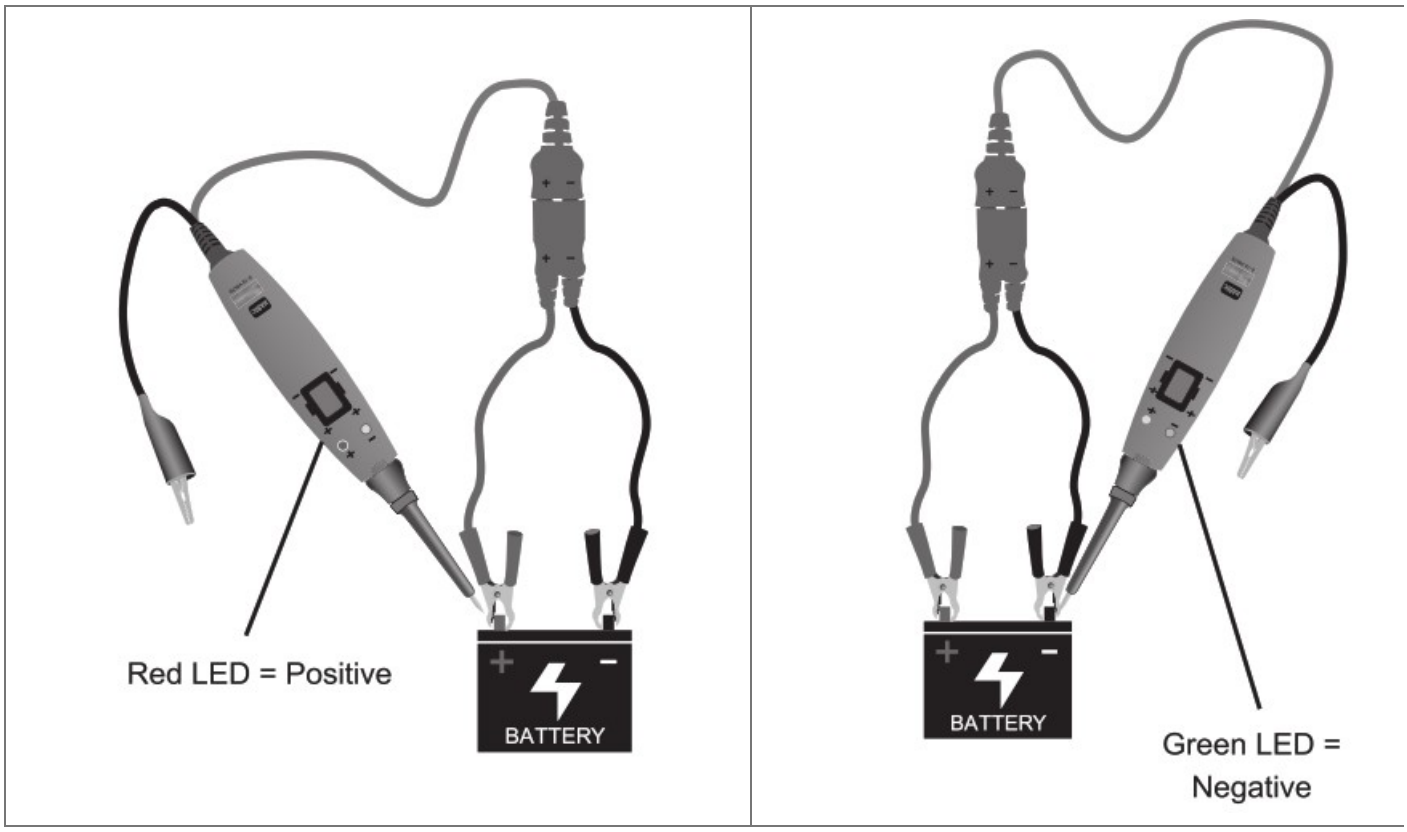
QUICK SELF-TEST

- Rock the power switch forward (+), the LED indicator should light RED.
- Rock the power switch rearward (-), the LED indicator should light GREEN.
- The Power Probe is now ready to use.



POLARITY TESTING

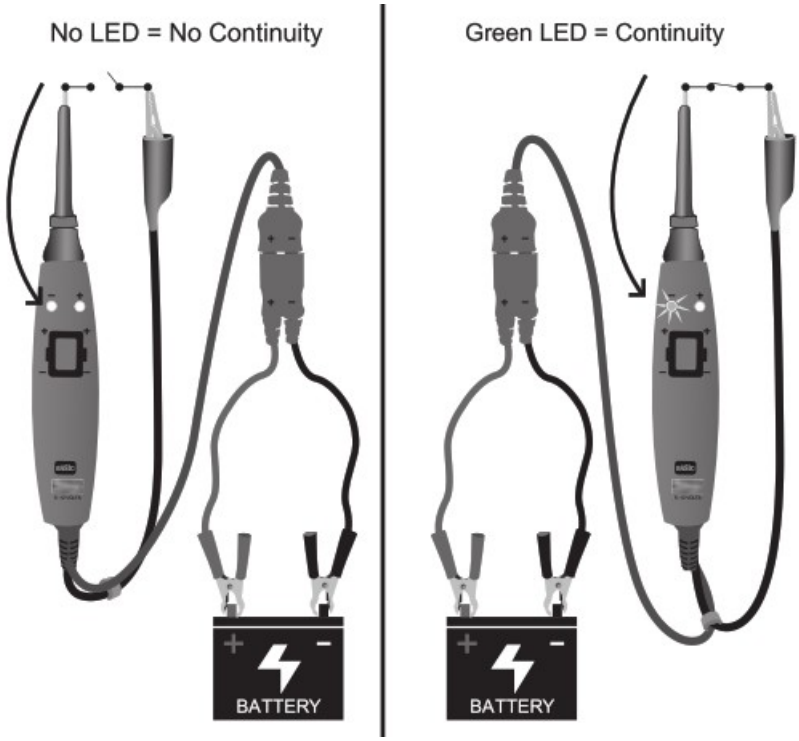
- By contacting the Power Probe tip to a POSITIVE (+), circuit will light the LED indicator RED.
- By contacting the Power Probe tip to a NEGATIVE (-), circuit will light the LED indicator GREEN.
- By contacting the Power Probe tip to an OPEN, circuit will be indicated by the LED indicator not lighting.



CONTINUITY TESTING

- By using the Probe Tip together with the auxiliary ground lead, continuity can be tested on wires and components that are disconnected from the vehicle's electrical system.
- When continuity is present, the LED indicator will light GREEN.

Continuity Testing Application

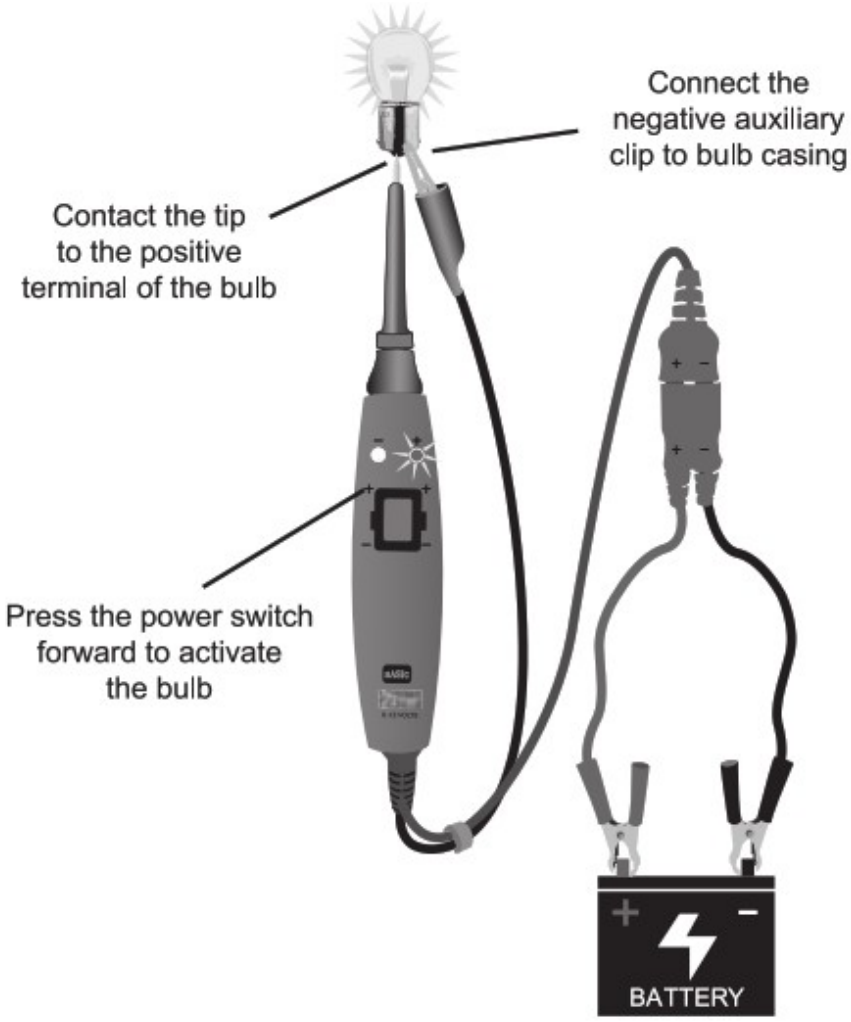


ACTIVATING REMOVED COMPONENTS

By using the Power Probe tip together with the auxiliary ground lead, components can be activated, thereby testing their function.
Connect the negative auxiliary clip to the negative terminal of the component being tested.
Contact the probe to the positive terminal of the component, the LED indicator should light GREEN indicating continuity through the component.
While keeping an eye on the green LED indicator, quickly depress and release the power switch forward (+). If the green indicator changed instantly from GREEN to RED you may proceed with further activation. If the green indicator went off at that instant or if the circuit breaker tripped, the Power Probe has been overloaded. This could happen for the following reasons:

- The contact is a direct ground or negative voltage.
- The component is short-circuited.
- The component is a high amperage component (i.e., starter motor).

If the circuit breaker is tripped, it'll automatically reset to default position.



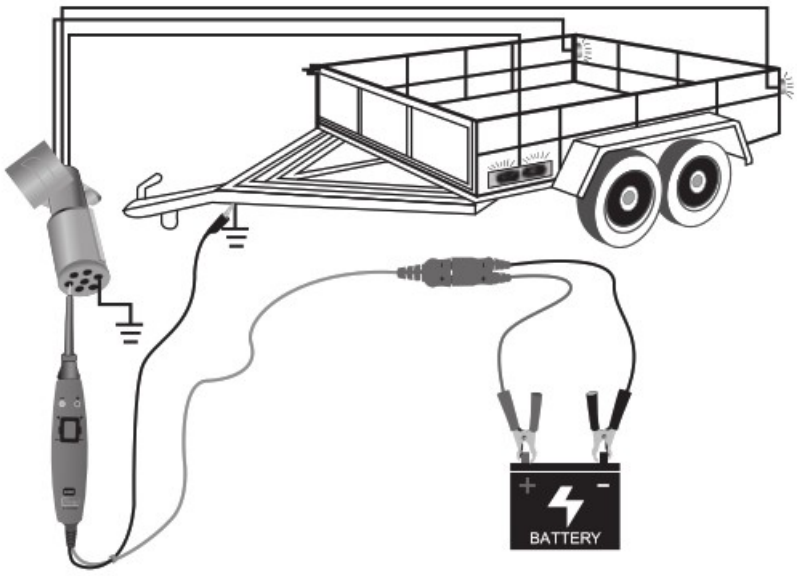
Other than light bulbs, you can also activate other components like fuel pumps, window motors, starter solenoids, cooling fans, blowers, motors, etc.

TESTING TRAILER LIGHTS AND CONNECTIONS

1. Connect the Power Probe Basic to a good battery.
2. Clip the auxiliary ground clip to the trailer ground.
3. Probe the contacts at the jack and apply voltage to them.

   This lets you check the function and location of the trailer lights. If the circuit breaker tripped, it'll automatically reset after it cools.

- Identify which terminal illuminates specific lights
- Finds shorted wires
- Shows open or broken wires

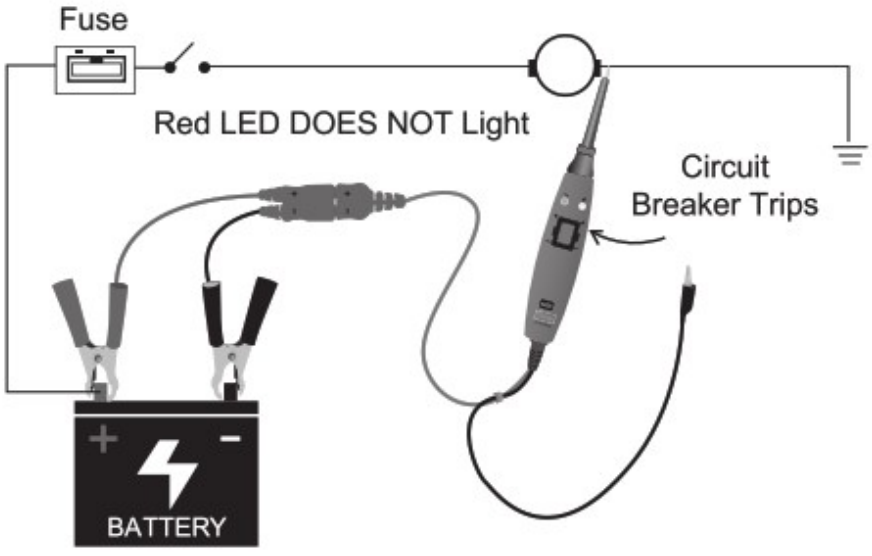


BREAKER TRIP RESPONSE SPECIFICATIONS
8 Amps = No Trip
10 Amps = 20 sec.
15 Amps = 6 sec.
25 Amps = 2 sec.
Short Circuit = 0.3 sec.

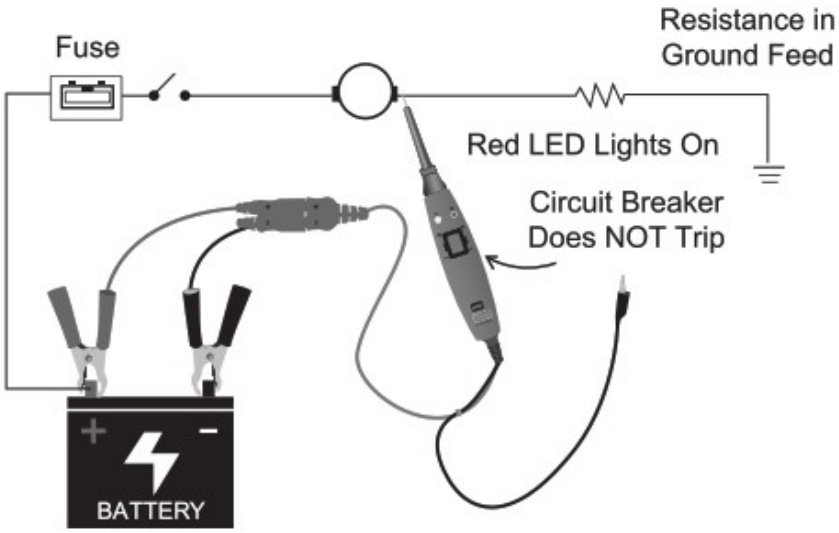
POWER TESTING A GROUND

First be sure the ground feed you are testing is really a ground feed. Do NOT activate electronic control circuits or drivers with 12 volts unless they are designed for 12 volts.
Power Testing a Ground Feed, that uses 20 to 18 gauge wires is easy. You can determine if the ground feed is good or faulty by simply probing it with the probe tip and apply power by pressing the power switch.
If the circuit breaker trips, and NO RED LED lights, the ground feed can be considered a good ground. If the RED LED lights, the ground feed is faulty. It's that simple.

CIRCUIT BREAKER TRIPS = GOOD GROUND



RED LED LIGHTS ON = BAD GROUND

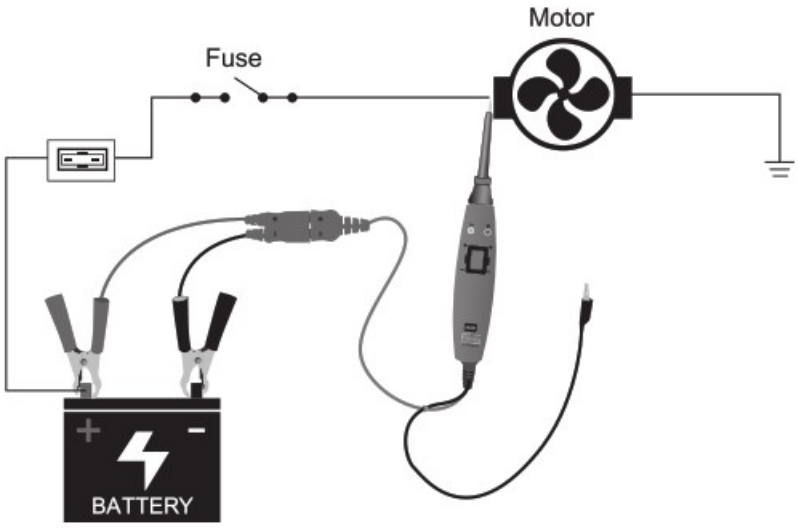


ACTIVATING ELECTRICAL COMPONENTS WITH POSITIVE (+) VOLTAGE

To activate components with positive (+) voltage: Contact the probe tip to the positive terminal of the component. The LED indicator should light GREEN.
While keeping an eye on the green indicator, quickly depress and release the power switch forward (+). If the green indicator changed instantly from GREEN to RED you may proceed with further activation.
If the green indicator went off at that instant or if the circuit breaker tripped, the Power Probe has been overloaded.
This could happen for the following reasons:

- The contact is a direct ground.
- The component is short-circuited.
- The component is a high current component (i.e., starter motor).

If the circuit breaker tripped, it'll automatically reset.



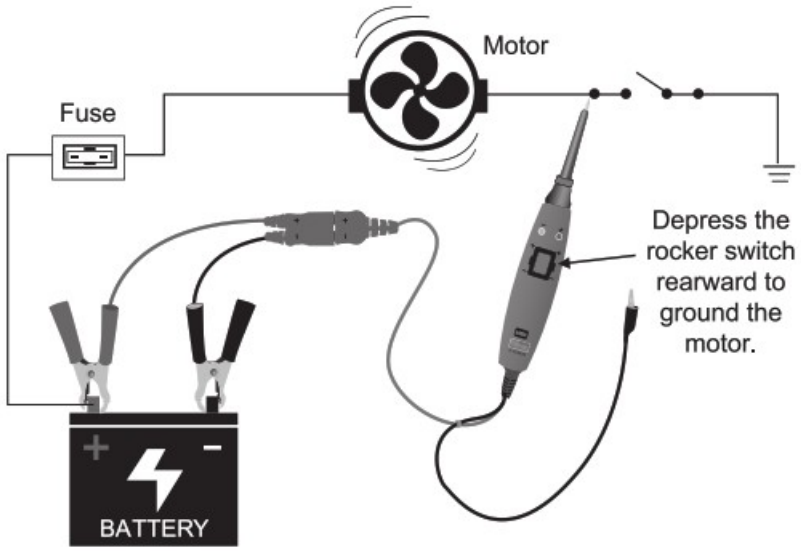
Warning: Improper use and application of voltage to certain circuits can cause damage to a vehicle's electronic components.
Therefore, it is strongly advised to use the correct schematic and diagnosing procedure while testing.

GROUND SWITCHING A CIRCUIT HAVING AN ELECTRICAL LOAD

Contact the probe tip to the circuit that you want to switch ON by applying ground. The RED LED should light, indicating the circuit has a positive feed through the load.
While keeping an eye on the RED LED, quickly depress and release the power switch rearward (-). If the GREEN LED came on, you may proceed with further activation.
If the GREEN LED did not light during the test, or if the circuit breaker tripped, the Power Probe BASIC has been overloaded.
This could happen for the following reasons:

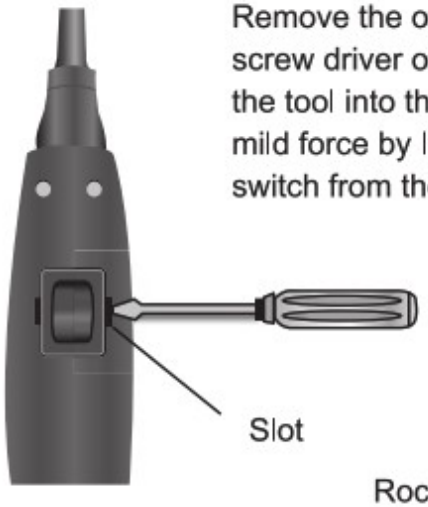
- The tip is connected directly to a positive circuit.
- The component is short-circuited internally
- The component is a high current component (i.e., starter motor).

If the circuit breaker tripped, it'll automatically reset after it cools for a brief period. (typically 2 to 4 seconds)



REPLACING OLD ROCKER SWITCH

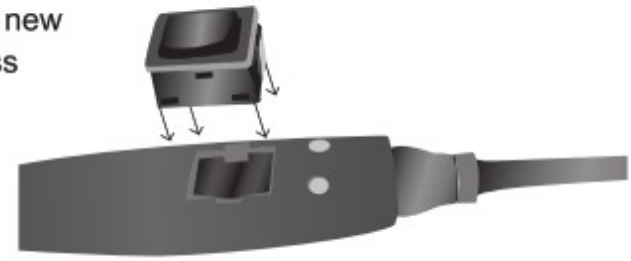
Rocker Switch slots makes it easy to replace a worn out switch in the field without having to send it in for repair.



Remove the old rocker switch with a small screw driver or any flat end pry tool. Insert the tool into the slot and carefully apply a mild force by lifting and popping out the switch from the casing.

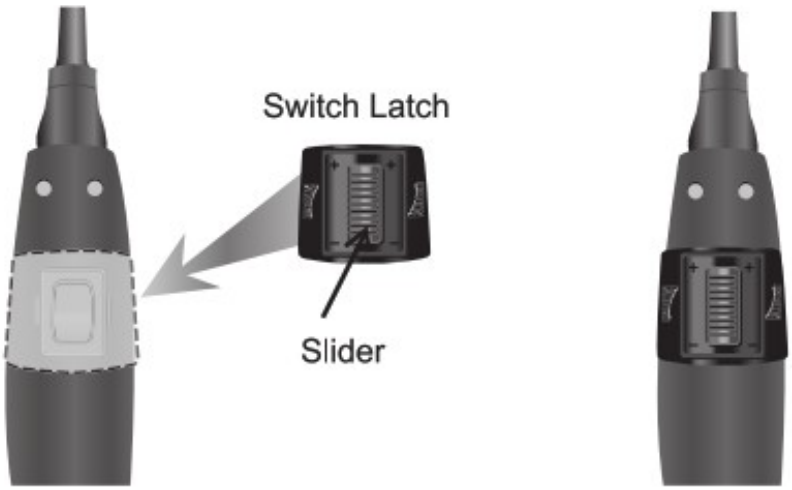
Rocker Switch
(PN005)

Make sure to install the new switch straight and press until flush with casing.



ATTACHING THE SWITCH LATCH

Switch Latch (included) holds constant power or ground to your circuit for many applications and dynamic testing. Position the Switch Latch on top of the Rocker Switch. Make sure the (+) sign is on the top and the slider is placed on neutral position.
Insert one side of the bottom edge into the slot then push and snap the other side of the latch until you hear a click sound indicating that the switch latch has been fully attached to the tool. Once installed, test the slider by pushing upward and downward to make sure it was attached correctly.
To detach the latch, use a small screwdriver or any flat end pry tool.
Insert the tool into one of the slot and carefully apply a mild force by lifting the switch from the case.



POWER PROBE®

UNITED KINGDOM

Power Probe Group Limited cs.uk@mgl-intl.com
14 Weller St, London, SE1 10QU, UK
Tel: +34 985-08-18-70
www.powerprobe.com

MGL®
Incorporated with MGL

700028046 FEB 2022 V1

Documents / Resources

	POWER PROBE Power Probe Basic Ultimate in Circuit Testing [pdf] User Manual Power Probe Basic Ultimate in Circuit Testing, Power Probe, Power Probe Circuit Testing, Basic Ultimate in Circuit Testing, Circuit Testing, Basic Ultimate