

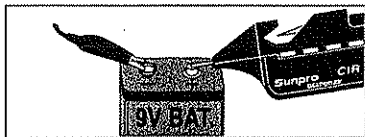
## General Safety Precautions

- Always wear approved eye protection.
- Always operate vehicles in a well ventilated area.
- Always keep yourself, tools, and test equipment away from all moving engine parts.
- Always follow vehicle manufacturer's warnings, cautions, and service procedures when appropriate.
- Be very careful when connecting the circuit tester to live "Hot" circuits.
- Never smoke or have open flames near vehicle.
- Always use extreme caution when working around the ignition coil, distributor cap, ignition wires, and spark plugs. These components contain High Voltage when the engine is running.

## General Testing

### 9 Volt Battery Testing

1. Connect BLACK alligator clip to negative (-) battery terminal.



2. TOUCH and HOLD metal tip on positive (+) battery terminal.
3. Observe LED display.
4. Test Results:

*Good 9V Battery:* Both the 4V and 9V LED's are lit.

*Bad or Weak 9V Battery:* The 4V LED is lit and the 9V LED will be OFF or dimly lit.

### 4-13V Variable DC Voltage Testing

1. Connect BLACK alligator clip to ground or negative (-) terminal of DC Voltage Source.
2. TOUCH and HOLD metal tip on positive (+) terminal of DC Voltage Source.
3. Observe LED display to determine the amount of DC Voltage present in the circuit.

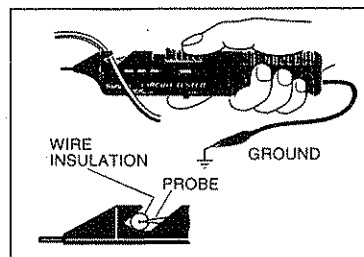
## Automotive Applications

### 12V Vehicle Battery Testing

1. Connect BLACK alligator clip to negative (-) battery terminal.
2. TOUCH and HOLD metal tip on positive (+) battery terminal.
3. Observe LED display.
4. Test Results:

4	9	12	13
No Charge on Battery			
Undercharged Battery			
Insufficiently Charged Battery			
Normally Charged Battery			
Fully Charged Battery			

### Finding Live Wires - "Hot Circuits"



1. Connect BLACK alligator clip to a good vehicle ground.
2. Make a connection to wire or circuit that you are checking for power.

Do one of the following:

- First attempt to TOUCH metal tip to wire terminals on either end of wire.
- If above is not successful, hook wire and gently push slider forward to pierce wire insulation with probe. Move slider forward until probe first makes contact with the conductor inside the wire. Be careful not to push probe completely through wire.

3. Observe LED display - If the LED's light up, there is voltage present in the wire and the circuit is "Hot".

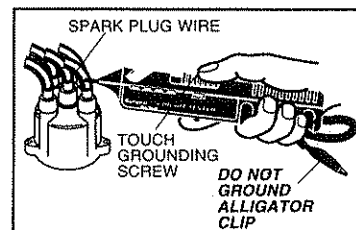
### Checking Wire Continuity - Finding Broken Wires

1. Verify the wire is in a circuit that is powered up or "Hot".
2. Connect BLACK alligator clip to a good vehicle ground.
3. Use piercing probe to probe along wire until the LED's fail to light. Follow instructions in **Automotive Applications - Finding Live Wires**, for proper wire piercing procedure.
4. The location where the LED's fail to light is where the wire is broken.

### Spark Plug Ignition Tester

**WARNING: THIS TEST INVOLVES WORKING AROUND HIGH VOLTAGE - USE EXTREME CAUTION.**

1. Start engine and let it run at curb idle.
2. Make sure BLACK alligator clip touches nothing. Do not allow alligator clip to accidentally touch the vehicle chassis.



3. Hold tester such that your index finger touches the grounding screw.
4. TOUCH and HOLD metal tip on spark plug wire.

- If High Voltage Lamp flashes or appears to stay ON at high RPM, the plug and ignition wire are good.
- If High Voltage Lamp fails to flash or stay ON at high RPM, then the ignition wire is bad or the spark plug is fouled or worn.

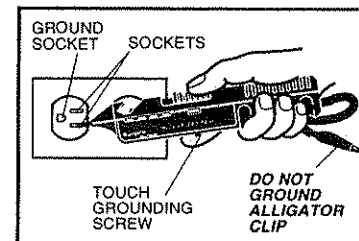
**NOTE:** High Voltage Lamp may be very dim.

## Household Applications

### Checking Power Outlet (AC 110V/220V)

**WARNING: NEVER GROUND BLACK ALLIGATOR CLIP WHILE TESTING AC VOLTAGE.**

1. Make sure BLACK alligator clip touches nothing.
2. Hold tester such that your index finger touches the grounding screw.



3. Insert metal tip into either outlet socket.
4. If the High Voltage Lamp lights, then the AC outlet is carrying 110V or 220V of electricity.
5. If High Voltage Lamp did not light, insert the metal tip into the remaining socket and again check to see if the High Voltage Lamp lights.
6. If the High Voltage Lamp still does not light, then this AC outlet is not carrying 110V or 220V of electricity.

**NOTE:** Never attempt to insert the metal tip into the round ground socket on three-socketed AC outlets.

### Full One Year Warranty

If within one year from the date of purchase this equipment fails due to defect in material or workmanship, return it to Actron and Actron will repair it free of charge.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

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