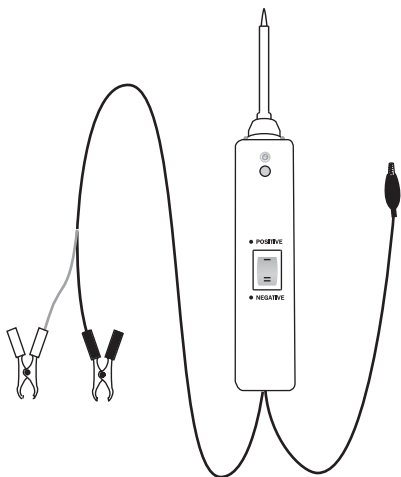


Automotive Test Device

Users Manual



Read this owners manual thoroughly before use

INTRODUCTION

This unit is the best electrical tester for reducing diagnostic time in automotive electrical systems. After a simple hook-up of the unit to the vehicle's battery, automotive technician can conduct a positive or negative battery current to the tip by rocking the rock switch forward or backward. The unit can be used to test for continuity or for bad ground contacts, and can be used to follow and locate short circuits. It is short-circuit protected, its long cable allows you to perform test easily.

Applications:

1. Tests for continuity
2. Tests the polarity of a voltage
3. Checks lamp
4. Checks electric motor.
5. Follows and locates short circuits
6. Tests for bad ground contacts
7. Illumination

GENERAL SPECIFICATIONS

Operation Voltage: 6 ~ 24Vdc

Cable Length: about 5m

Overload Protection: 8A (When the current exceeds 8A, the unit will disconnect the current automatically.)

Operation Temperature: 0°C ~ 40°C, < 75%RH

Storage Temperature: -20°C ~ 50°C, < 85%RH

Size: 211×30×27mm (for main body only)

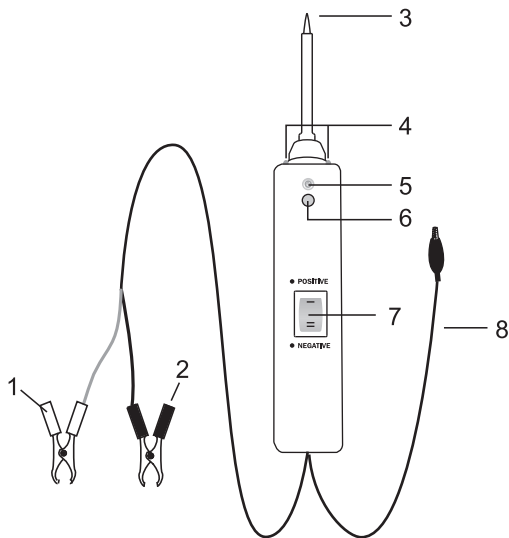
Weight: about 280g

WARNING

1. Do not use the unit around explosive gas, vapor, or dust.
When the rock switch is pressed (or rocked), battery current is conducted directly to the tip which may cause sparks when contacting ground or certain circuits.
2. The unit is not to be used with 110/220-volt house current, it is only for use with dc 6 ~ 24V systems.
3. Do not use on AC voltage.
4. After you finish checking vehicle, correctly restore all the connections which you disconnected.

5. Always follow the instructions and procedures indicated in the vehicle's service manual before attempting to disconnect any part or subsystem of the electrical circuit.
6. Use caution when using the unit to perform measurement. Never touch any dangerous part of the vehicle with you hand for safety. Don't touch any live conductor with hand or skin.
7. Don't use it if it is damaged.
8. Some components of vehicle work on lower voltage, they can not withstand the voltage applied by the unit. To avoid damage to these components, don't use the unit to apply voltage to them directly or indirectly.
9. Before you drive vehicle, always make sure that the vehicle is safe and reliable.
10. Don't use the unit if the vehicle is being driven.

INSTRUCTION



1. Red Battery Clip
2. Black Battery Clip
3. Probe
4. Illuminators
5. TOUCH Metal

It is used for turning on or off the illuminators.

6. Test Indicator

7. Rock Switch

It includes a front part "–", and a rear part "=".

When you press the front part "–", the probe is connected to the red battery clip directly. When you press the rear part "=", the probe is connected to the black battery clip directly.

8. Auxiliary Ground Lead

It is connected to the black battery clip directly.

OPERATION INSTRUCTION

Hook-up

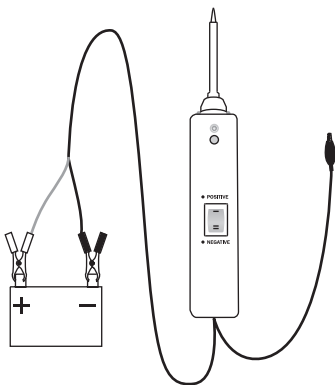
Unroll the unit's cable.

Clamp the red battery clip to the positive terminal of the vehicle's battery.

Clamp the black battery clip to the negative terminal of the vehicle's battery.

The unit starts self-test, and as indications, the built-in buzzer sounds, the test indicator's green light, red light and the illuminator's light appear in turn. Several seconds later, the self-test finish.

Note: The buzzer sounded continuously and then sounded discontinuously.



1. Testing the Unit and the Connections

Press the front part (" - ") of the rock switch, the test indicator should light RED.

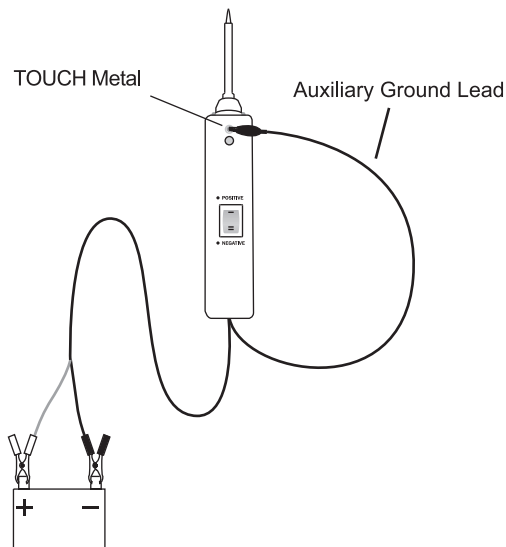
Press the rear part (" = "), the test indicator should light GREEN.

The unit is now ready for use.

If the test indicator did not light, the cause may be that the clip connections are not good or the unit is damaged.

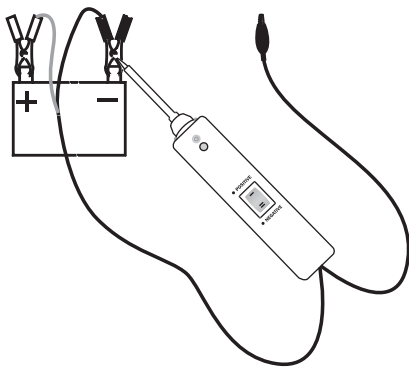
2. Using Illumination

To turn on or off the illuminators, connect the clip of the auxiliary ground lead to the TOUCH metal and keep them in contact with each other for about 0.5 second and then remove the clip from the TOUCH metal.



3. Polarity Test

Contacting the probe's tip to a positive (+) circuit will light the test indicator RED. Contacting the probe's tip to a negative (-) circuit will light the test indicator GREEN. Contacting the probe's tip to an open circuit does not turn on the test indicator.

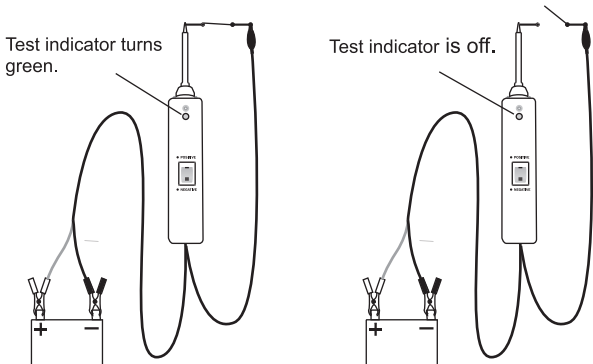


4. Continuity Test

Note: Don't press the rock switch.

By using the probe tip together with the auxiliary ground lead, continuity can be tested on wires and components which are disconnected from the vehicle's electrical system.

When continuity is present, the test indicator will light GREEN.



5. Activating Components out of the Vehicle's Electrical System

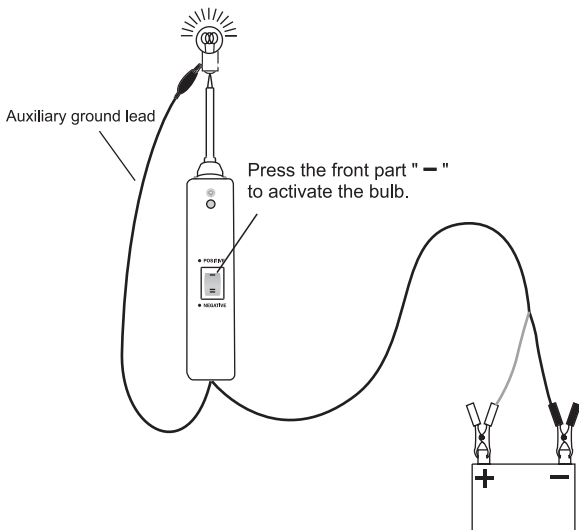
By using the probe tip together with the auxiliary ground lead, components can be activated, thereby testing their function.

Connect the auxiliary ground lead's clip to the negative terminal of the component to be tested. Contact the probe to the positive terminal of the component, the test indicator should light GREEN indicating continuity through the component.

While keeping an eye on the green test indicator, quickly press and release the rock switch's front part ("—"). If the green test indicator changed instantly from GREEN to RED, you may proceed with further activation. If the green test indicator went off at that instant, the unit has been overloaded. This could happen for the following reasons:

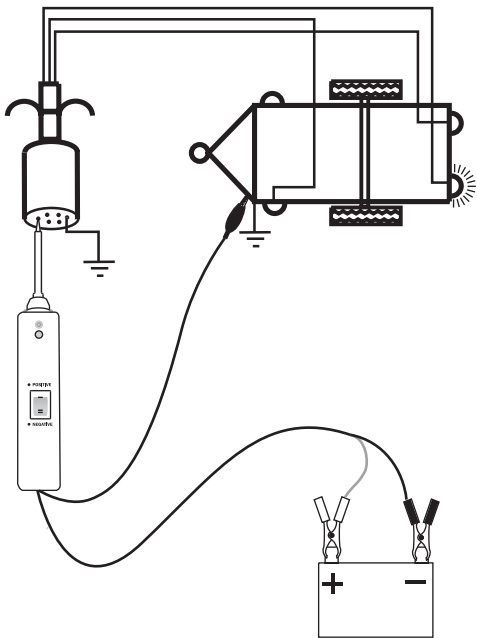
- a. The contact of the tip is a direct ground or negative voltage.
- b. The component is short-circuited.
- c. The component is a high amperage component (i.e. starter motor).

Activate fuel pumps, starter solenoids, magnetic clutches, blower motors, cooling fans, lights etc.



6. Testing Trailer Lamps and Connections

1. Connect the unit to a good battery.
2. Clip the clip of the auxiliary ground lead to the trailer ground.
3. Probe the contacts at the jack while pressing the rock switch's front part (" - "). This lets you check the operation and orientation of the trailer lamps.



7. Activating Electrical Components

a. Activating components with positive (+) voltage

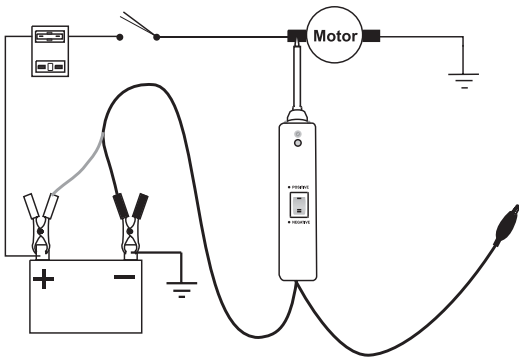
Contact the probe tip to the positive terminal of the component, the test indicator should light GREEN.

While keeping an eye on the green indicator, quickly press

and release the rock switch's front part (" — "). 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, the unit has been overloaded. This could happen for the following reasons:

1. The tip's contact is a direct ground.
2. The component is short-circuited.
3. The component is a high current component (i.e. starter motor).

Warning: Haphazardly applying 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 performing test.



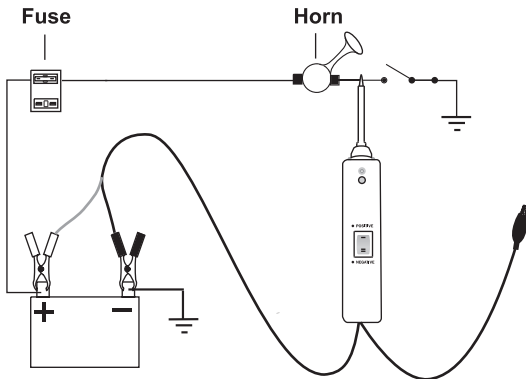
b. Activating electrical components with negative (-) voltage

Contact the probe tip to the negative terminal of the component, the test indicator should light RED.

While keeping an eye on the red test indicator, quickly press and release the rock switch's rear part (" = "). If the red test indicator changed instantly from RED to GREEN, you may proceed with further activation. If the test indicator went off at that instant, the unit has been overloaded. This could have happened for the following reasons:

1. The tip's contact is a direct positive voltage.
2. The component is short-circuited.
3. The component is a high amperage component (i.e. starter motor).

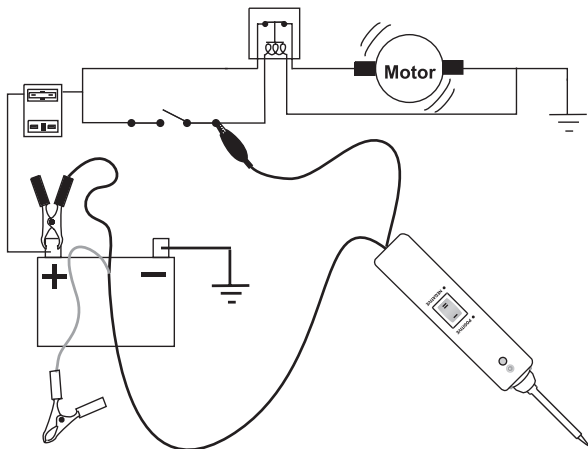
WARNING: With this function a vehicle's fuse can be blown or tripped if grounding the contact in series with it.



8. Jumper Lead Feature

The black battery clip and the auxiliary ground lead are connected directly through the unit. By leaving the red battery clip disconnected from the vehicle's battery, the unit can be used as a long jumper lead.

Be careful to avoid short circuit and overloading when using this jumper function. In this configuration, the leads are not protected by the unit's built-in circuit breaker.



9. Checking for Bad Ground Contacts

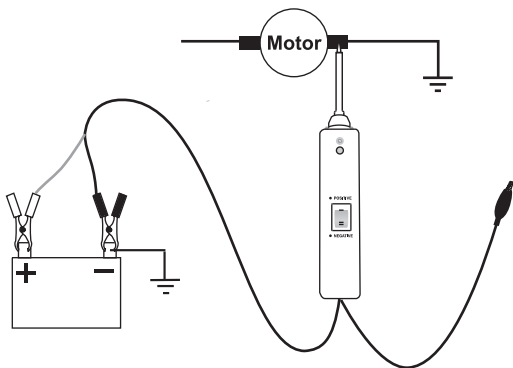
Probe the suspected ground wire or contact with the probe tip.
Observe the green test indicator.

Press the rock switch's front part (" — ") then release.

If the test indicator changed from GREEN to RED, this is not a true ground.

If the test indicator turned off when you pressed the rock switch's front part (" — ") , this circuit is likely a direct ground.

Keep in mind that high current components such as starter motors will also cause the test indicator to turn off in this check.



10. Following and Locating Short Circuits

In most cases a short circuit causes a fuse blowing or a circuit breaker tripping. Here is the best place to begin the search. Remove the blown fuse from the fuse box. Connect the probe tip to each of both contacts in the fuse box and press the rock switch's front part ("—"). The side which causes the test indicator to turn off when you press the rock switch's front part ("—") is the shorted circuit. Note this wire's identification code or color. Follow the wire as far as you can along the wiring harness, for instance if you are following a short in the brake light circuit you may know that the wire must pass through the wiring harness at the door sill. Locate the color-coded wire in the harness and expose it. Probe through the insulation of the wire with the probe tip and press the rock switch's front part ("—") to energize the wire. If the test indicator turns off, this wire is verified to be the shorted wire. Cut the wire and energize each end with the probe tip. The wire which causes the test indicator to turn off will lead you to the shorted area. Follow the wire in the shorted direction and repeat this procedure until you find the exact position of the short.

NOTE

The unit is equipped with a built-in circuit breaker for overload protection. After the circuit breaker trips, it will be reset automatically.

DECLARATION

1. This manual is subject to change without notice.
2. Our company will not take the other responsibilities for any loss.
3. The content of this manual can not be used as the reason to use the unit for any special application.

DISPOSAL OF THIS ARTICLE

Dear Customer,
If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled. Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in your area.



