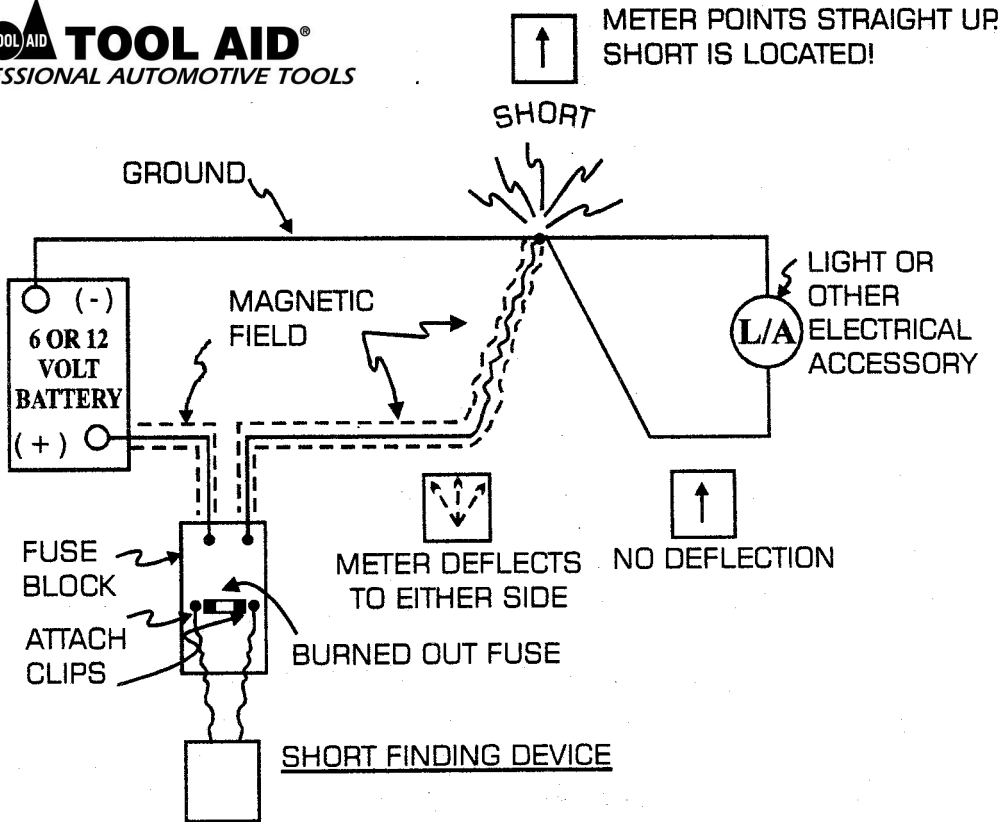


INSTRUCTIONS

INTERMITTENT SHORT AND OPEN CIRCUIT FINDER

TYPICAL AUTOMOTIVE SHORT CIRCUIT

TOOL AID
PROFESSIONAL AUTOMOTIVE TOOLS



NOTE: BEFORE USING THIS DEVICE, CONSULT THE VEHICLE SERVICE MANUAL FOR SPECIFIC CIRCUIT DIAGRAMS IN EACH FUSED CIRCUIT AND ANY PARTICULAR TEST OR REPAIR PROCEDURES. NOT RECOMMENDED FOR TESTING ELECTRONIC ENGINE OR BODY CIRCUITS INCLUDING: COMPUTERS, SENSORS, FUEL INJECTORS AND AIR BAGS.

Intermittent short circuits are often troublesome and difficult to locate. Because of their intermittent nature, these shorts can occur often before they are located and positive action is taken. Follow these simple instructions to:

- I. Determine that an intermittent short circuit exists.
- II. Locate the short so that it can be repaired.

I. Determining if an Intermittent Short Circuit Condition Exists

1. The meter supplied with the kit is not used for this part of the troubleshooting procedure. Use only the buzzer pack which has two wires with clips attached.
2. Make sure the ignition key switch is OFF and the switches for all electrical accessories are OFF.
3. When a short circuit occurs, the circuit's fuse will blow. Inspect the fuse block and remove the blown fuse. Note the label and amperage rating of the removed fuse.

4. Attach one clip from the buzzer pack to each side of the fuse holder that held the blown fuse. For blade type fuses, break the blown fuse and remove the blades. Insert the blades into the fuse holder and attach the buzzer pack clips to each blade.
5. Turn ignition key switch to ON or ACCESSORY position. Turn all switches in the affected circuit (denoted by the label of the blown fuse on the fuse block) to ON.
6. When a short circuit occurs, the buzzer will sound.
 - A. If the buzzer sounds immediately, a short circuit exists. Trace the path of the wires of the affected circuit from the fuse block and jiggle them as you proceed. If the buzzer stops or is not continuous when the wires are being tugged and jiggled, the short is in the same area along the wire you have traced.
 - B. If the buzzer does not sound immediately, the short circuit condition does not exist at that moment. Trace the path of the wires of the affected circuit from the fuse block and jiggle them as you proceed. When the buzzer sounds, a short circuit has occurred. You have now located the short in the area along the wire you have traced.
 - C. If the buzzer did not sound after completing the above step, subject the vehicle to a rocking motion by hand. If this does not cause the intermittent short to occur, take the vehicle for a road test. Drive it over a rough or bumpy road to induce the intermittent short circuit. When the buzzer sounds, stop the vehicle and follow the procedure outlined above.
7. Now that the general area of the short circuit has been determined, you may be able to visually pinpoint the exact location of the short by examining the wires. If there are any burn marks on the wires or sparks emanating from the wires, then you have found the location of the short. If the location of the short still cannot be determined, then proceed with the following instructions:

II. Locating the Short Circuit so that it can be Repaired.

1. Keep the tester hooked up as described in Step I-4.
2. Make sure all accessory switches in the shorted line are turned ON.
3. Use the supplied meter and hold it as near as possible to the wire of the shorted circuit in the general area where the short is located.
4. Slowly trace the wire by moving the meter towards the inoperative accessory. The needle of the meter will deflect to one side until you pass over the area of the short. At this point, the needle will stand straight without deflection. If the meter is moved beyond the point of the short, the needle will remain steady.