

Conductivity Tester

Instructions

Materials:

- wire stripper
- wire nut connector
- nail
- pill canister (childproof)
- 9-V battery*
- battery snap connector (Radio Shack Cat. No. 276-325)
- blinking light emitting diode (Cat. No. 276-036c or 276-030)
- test probe leads (Cat. No. 278-705)

Demo Procedure:

1. Prepare the pill canister by making three holes in the cap arranged as described below. Heat a nail in a flame until it is hot. Then use the nail to melt suitable holes in the plastic cap.

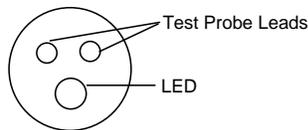
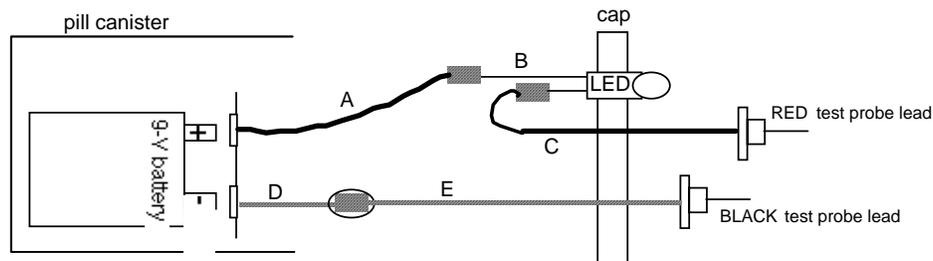


Figure 1

2. Push the light-emitting diode (LED) through the larger hole from the inside of the cap.
3. Locate the **longer** lead of the LED. Mark the tip with a permanent marker and carefully separate the two leads. Twist the bare ends (1 cm) of the red lead from the battery snap connector around the marked LED lead. Handle the LED leads gently.
4. Secure the red lead and the LED lead together with wire nut connector.
5. Thread the red test probe lead through the one of the holes in the cap. Solder the **shorter** lead of the LED to this test probe lead. Secure the red lead and the LED lead together with wire nut connector.
6. Thread the black test probe lead through the last hole in the cap. Locate the black lead from the battery clip and again use another wire nut connector to connect the two leads together.
7. Connect the battery clip to a nine volt battery. If the detector does not work, check the entire system against Fig. 2 to see if you made any error in connecting the leads or if there are any loose connections. If the detector works, package it in the pill canister.



- A. battery snap connector red lead
 - B. LED long lead
 - C. red test probe lead
 - D. battery snap connector black lead
 - E. black test probe lead
- solder joint
● solder and tape

Fig. 2