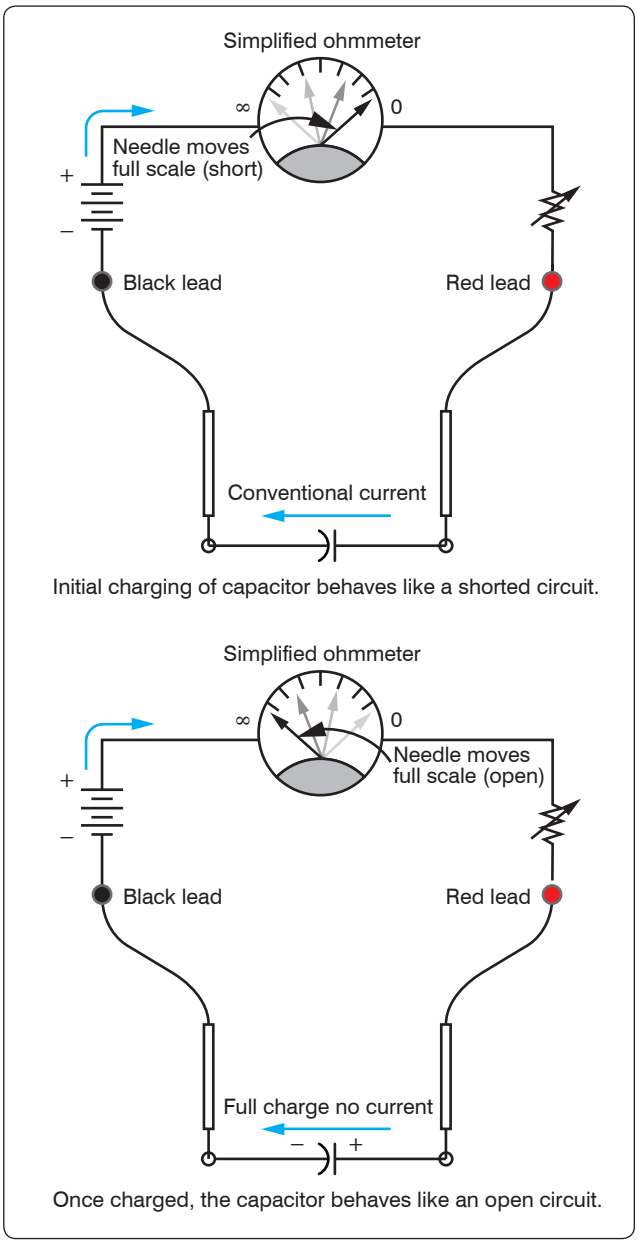

Figure 12-173. *Basic test of a capacitor with an ohmmeter.*

Inductance Measurement

The common mode of failure in an inductor is an open. To check the integrity of an inductor, it must be removed from the circuit and tested as an isolated component just like the capacitor. If there is an open in the inductor, a simple check with an ohmmeter shows it as an open circuit with infinite resistance. If in fact the inductor is in good condition, then the ohmmeter indicates the resistance of the coil.

On occasions, the inductor fails due to overheating. When the inductor is overheated, it is possible for the insulation covering the wire in the coil to melt, causing a short. The effects of a shorted coil are that of reducing the number of turns. At this point, further testing of the inductor must be done with test equipment not covered in this text.

Troubleshooting Open Faults in a Series Circuit

One of the most common modes of failure is the "open" circuit. A component, such as a resistor, can overheat due to the power rating being exceeded. Other more frustrating problems can happen when a "cold" solder joint cracks leaving a wire disconnected from a relay or connector. This type of damage can occur during routine maintenance after a technician has accessed an area for inspections. In many cases, there is no visual indication that a failure has occurred, and the soon-to-be-frustrated technician is unaware that there is a problem until power is reapplied to the aircraft in the final days leading up to aircraft delivery and scheduled operations.

The first example is a simplified diagram shown in *Figures 12-174* through *12-176*. The circuit depicted in *Figure 12-174* is designed to cause current to flow through a lamp, but because of the open resistor, the lamp will not light. To locate this open, a voltmeter or an ohmmeter should be used.

Tracing Opens with the Voltmeter

A general procedure to follow in this case is to measure the voltage drop across each component in the circuit, keeping

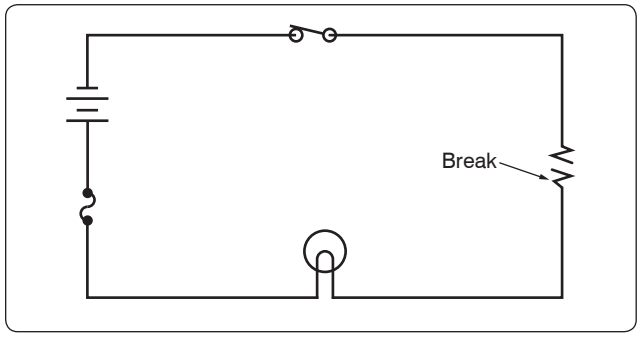

Figure 12-174. *An open circuit.*

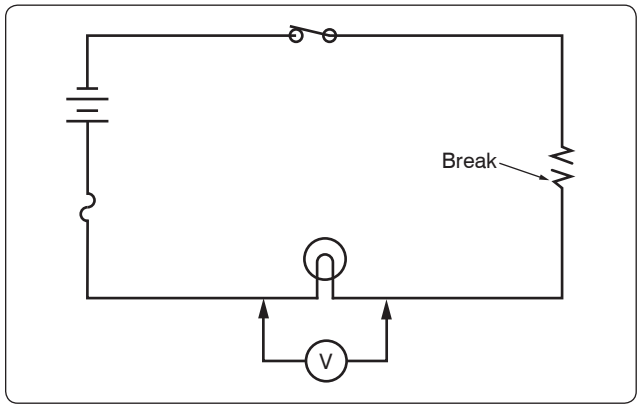

Figure 12-175. *Voltmeter across a lamp in an open circuit.*