UNIT

7 The Electrical Circuit

7.0 Introduction

To understand how electrical circuits work, you must first understand electrical terminology. For example, can you define volt, ampere, or ohm? What does impedance do in a circuit, and how does it relate to the voltage or the current? This unit introduces Ohm's Law and the basic power equation. They are tools for applying electrical theory to solve real-world electrical problems.

7.1 The Electrical Circuit

The movement of electrons for the production of work can be compared to the movement of water. A pump driven by any independent force (water, wind, etc.) circulates the water in the closed-loop system. The water rotates the turbine and the turbine can be used to produce work. Figure 7–1

Electrical current is the movement of electrons that flow from the power source through the electrical circuit of the appliance or equipment and then return to the power source. The complete path the electrons take is called an electrical circuit. Figure 7–2

Electric current is produced by forcing electrons to move through an electrical circuit. For current to flow from the power source through the load and then back to the power source, the current flow path must be conductive.

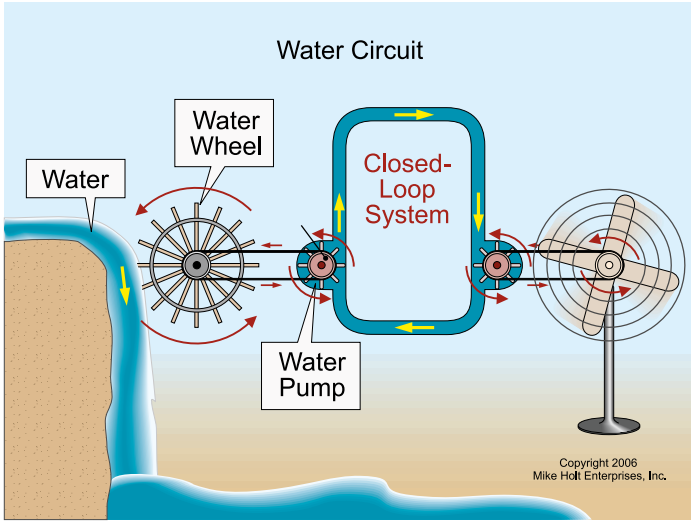

Figure 7–1

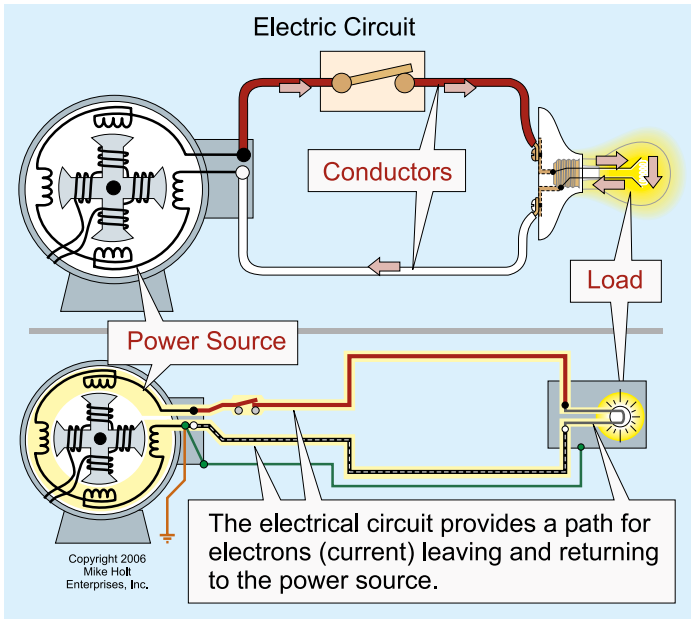

Figure 7–2