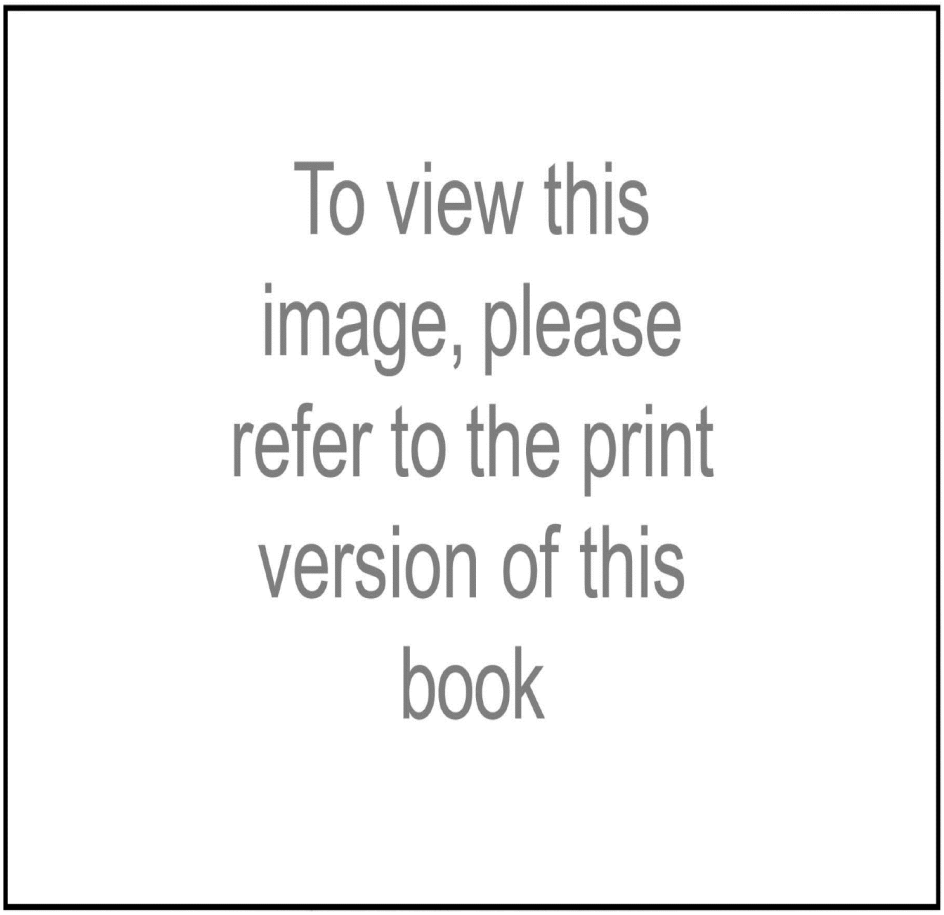

Fig. 8-2. *Lead plates within the battery provide a high surface-area-to-volume ratio for compact size and high efficiency.*

duration of the current flow under ideal conditions. You may think of the whole process as a miniature waterwheel like the one shown in Figure 8-3.

The upper water source and lower water receiver are like the terminals of a battery. As the water flows from one to the other, it expends energy, turning the waterwheel, or in the case of a battery, turning a flap motor or illuminating a landing light. The greater the load on the waterwheel, the greater the demand for flow to turn it. Similarly, the more powerful the electric motor, the greater the demand for current. Eventually, you will exhaust the supply of water in the tank, and so too will you exhaust the battery.

A fully charged, 20-amp/hour battery in ideal conditions, for example, would be capable of supplying 20 amps for 1 hour, 10 amps for 2 hours, or 5 amps for 4 hours. In our water system we have a pump that will resupply the source. In the aircraft we have an engine-driven alternator that will recharge the battery continuously, whenever the engine is