

## Chapter Four

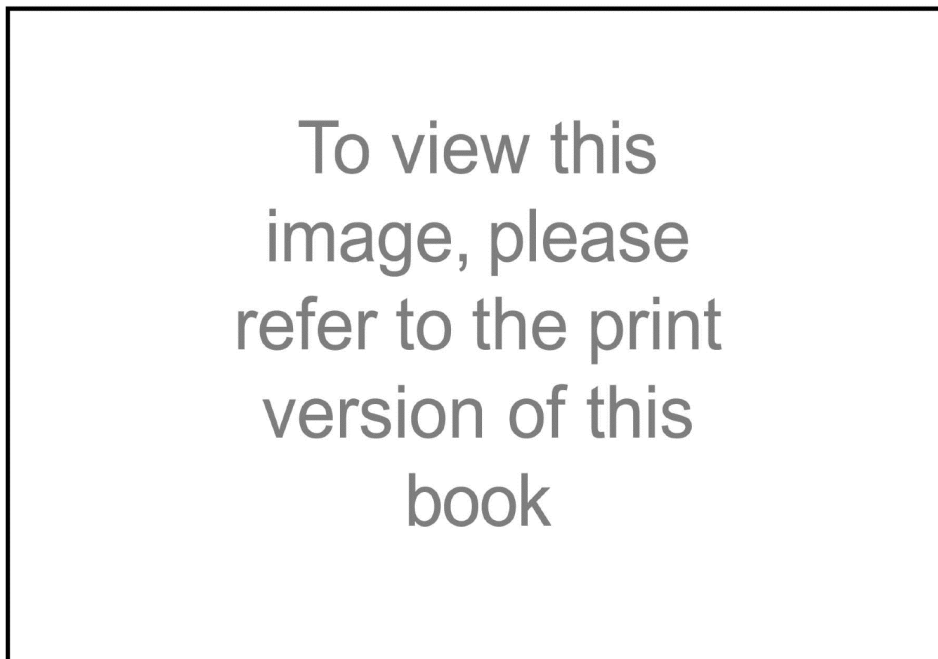
flame propagation to increase chamber pressure along with the continued compression stroke. The end result maximizes pressure buildup slightly after TDC.

A magneto is functionally an engine-driven AC generator used to create sufficient voltage to jump the spark plug gap to assure proper fuel/air mixture combustion. Located under the engine cowling, attached to the engine itself as shown in Figure 4-7, the magneto requires no external source of electricity. Instead, it creates its own voltage through electromagnetic induction, which is simply a relative movement between a conductor and a magnetic field.

### Danger of Unintentional Engine Start

A word of caution is in order regarding magnetos. A magneto presents a potentially life-threatening condition, and the pilot should always consider the magnetos to be “hot;” here’s why.

It is critical to understand that what makes the magneto work, what makes it produce the necessary voltage to cause the spark plugs to fire, is simply rotating the crankshaft. The magneto is completely self-contained and doesn’t require a battery or anything else before it can fire except rotation. It makes no difference to the magneto if crankshaft rotation occurs as the result of activating the engine starter or because someone turns the propeller by hand. Either one will cause the crankshaft to turn, which results in the magnetos



**Fig. 4-7.** Bendix magneto mounted on an engine. (Photo by author, courtesy of Frasca Air Service)