



The Charge-Discharge Ammeter

Between the positive terminal of the battery and the primary bus is another version of an ammeter found on some airplanes (Figure 12). Ammeters of this variety are often called *charge-discharge* ammeters. Figure 13 shows a charge-discharge ammeter. As the name implies, the charge-discharge ammeter tells you if electrical current is flowing into or out of the battery. This directly informs you about your electrical system's state of health. Whether you have a load meter or a charge-discharge ammeter depends on the specific make and model of your airplane. Most airplanes have one or the other but seldom both.

Current flow from the primary bus into the battery is indicated by a positive needle deflection (Figure 14). Think of water (electrical current) pushing the needle toward the (+) or (-) side of the ammeter as it enters or leaves the battery. A positive deflection usually implies that the battery is being charged (water is moving into the battery). A negative needle deflection indicates that the battery is supplying the primary bus with electrical current (water is moving out of the battery).

Normally, the needle should be resting near the zero or center mark. This implies that the battery is neither being charged nor discharged (a good sign). Continuous needle deflections too far from cen-

ter, however, are cause for concern. There are circumstances where the needle will indicate a large deflection from the center position for short periods.

Starter motors demand large amounts of electrical current for their operation. After startup, the battery is sure to be slightly drained. Expect to see a positive (+) needle deflection of five, maybe six or seven needle widths on the ammeter right after engine start. This means that

the alternator is replenishing battery energy consumed by the current-hungry starter. Expect a similar ammeter indication if the radios were

WATER ANALOGY OF ELECTRICITY

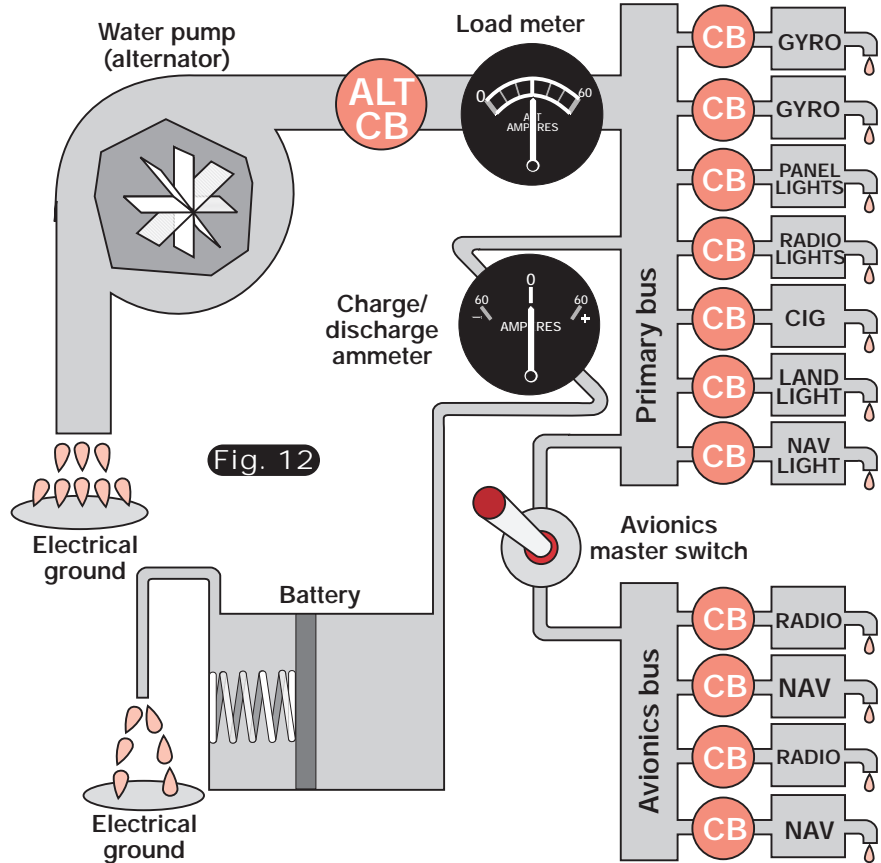


Fig. 12

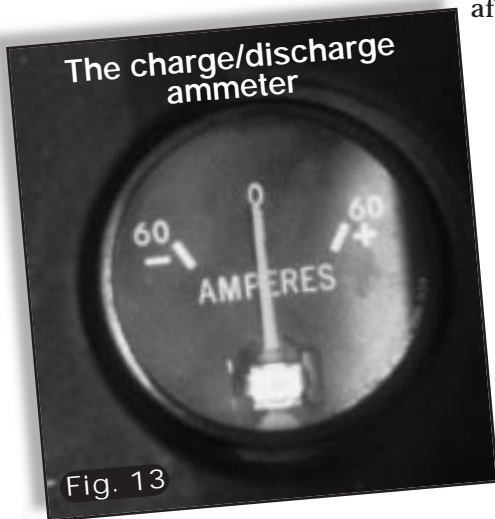


Fig. 13

Wise man say, "Man who use tongue to test airplane battery find experience re-volting."

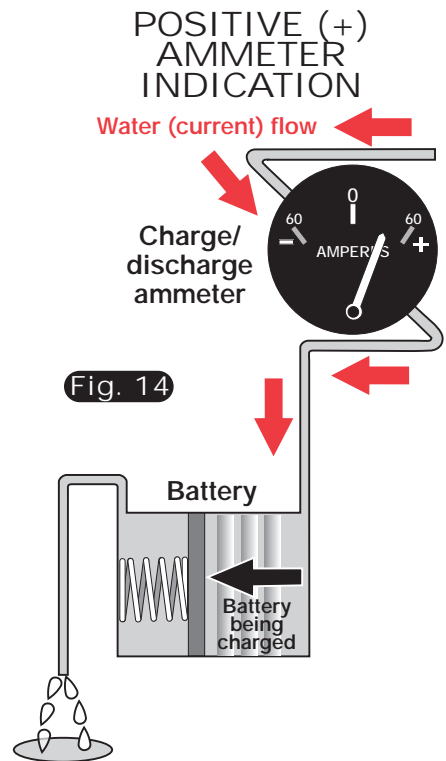


Fig. 14