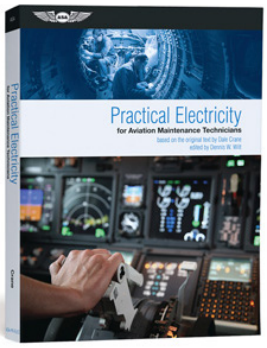
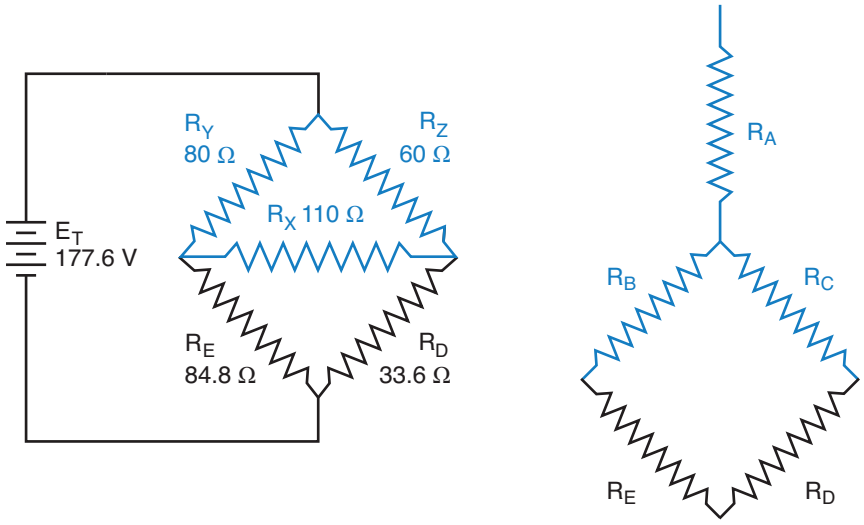
Practical Electricity for Aviation Maintenance Technicians Update



This document revises the first edition of ASA-PR-ELEC, published in April, 2017.

Page 38:

- *Replace the image in Figure 2-26, bridge label corrected to read* R_X 110 Ω



Page 75:

- *Replace the image in Figure 3-38 and change the caption to read:*

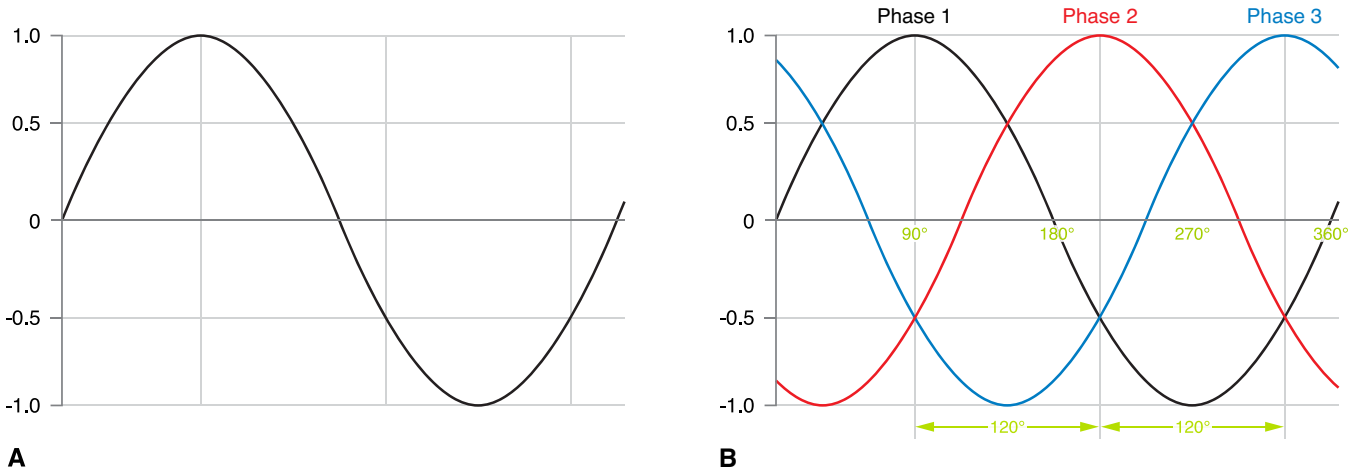


Figure 3-38. *The waveform of (A) single and (B) three-phase AC.*

Page 137:

- *Under the title* **Aircraft Batteries***, insert the following paragraph before the subtitle* **Lead-Acid Batteries***:*

  As technology in our aircraft progresses, airworthy batteries are critical more than ever, with electric or electronic fuel injection, electronic ignition, glass cockpits, fly-by-wire, etc. Maintenance and continued airworthiness is extremely important. For batteries that are certificated under TSO-C173/C173A, FAA AC 43.13-2B (current as of 2017), all manufacturer's operator and maintenance manuals should be followed to insure continued airworthiness. For batteries that are not certificated under TSO-C173/C173A for experimental and light sport aircraft, it is still recommended that the AC and manufacturer's recommendations for maintenance is followed.

- *Replace the* **ampere-hour** *note on the right margin with the following:*

  ampere-hour (Ah). The quantity of electricity that passes through a circuit when one ampere flows for one hour.

- *Under the subtitle* **Lead-Acid Batteries***, replace the second and third paragraph with the following:*

  Batteries are rated according to their voltage and ampere-hour capacity, which is their ability to produce a given amount of current for a specified length of time. One ampere-hour of capacity is the ability of the battery to produce a flow of 1 ampere for 1 hour. A 35-ampere-hour (Ah) battery can nominally produce 35 amperes for 1 hour. In other words, the battery has a 1-hour rating of 35 Ah. This rating is expressed in shorthand notation as C1. This relationship is not exactly true, because at the high rates of current drain, the battery produces less current than it does at lower rates because of losses within the battery.

  Aircraft batteries are rated at their 1-hour and 30-minute discharge rates. These ratings give the ampere-hour capacity of the battery when enough current is used to discharge the battery to a closed-circuit voltage of 1.2 volts per cell in these specified times. A typical 24-volt battery may have a 1-hour rating of 35 Ah or C1 capacity and a 30-minute rating of 31 Ah or C2 capacity.

Page 138:

- *Under the subtitle* **Battery Charging***, add this sentence to the beginning of the first paragraph:*

Always follow the manufacturer's recommendation for charging the battery.

Page 139:

- *Under the subtitle* **Battery Installation***, add this sentence to the end of the first paragraph:*

  Always follow the manufacturer's recommendations for installation.

- *Under the section title* **Nickel-Cadmium Batteries***, add this sentence to the end of the first paragraph:*

  Always follow the manufacturer's recommendations for installation and maintenance of ni-cad batteries.