Anodizing. The most common surface treatment of nonclad aluminum alloy surfaces. The aluminum alloy sheet or casting is the positive pole in an electrolytic bath in which chromic acid or other oxidizing agent produces an aluminum oxide film on the metal surface. Aluminum oxide is naturally protective, and anodizing merely increases the thickness and density of the natural oxide film.

Apparent power. That power apparently available for use in an AC circuit containing a reactive component. It is the product of effective voltage times the effective current, expressed in volt-amperes.

Archimedes' principle. The buoyant force that a fluid exerts upon a submerged body is equal to the weight of the fluid the body displaces.

Area. A measurement of the amount of surface inside a two-dimensional object.

Arm. The horizontal distance that a part of the aircraft or a piece of equipment is located from the datum.

Armature. The rotating part of an electric generator or motor.

Aspect ratio. The relationship of the length (wingtip to wingtip), or span, of an airfoil to its width, or chord.

Assembly drawing. A description of an object made up of two or more parts.

Atom. The smallest particle composed of a nucleus that contains protons, neutrons, and electrons, which revolve around the nucleus.

B

Ballast. A weight installed or carried in an aircraft to move the center of gravity to a location within its allowable limits.

Base. In mathematics, used to refer to a particular mathematical object that is used as a building block. A base-a system is one that uses a as a new unit from which point counting starts again. (See decimal system.) In the mathematical expression a^n, read as "a to the nth power," a is the base.

Basic empty weight. Standard empty weight plus optional equipment.

Bernoulli's principle. Equivalent to the principle of conservation of energy, this principle states that the static pressure of a fluid (liquid or gas) decreases at points where the velocity of the fluid increases, provided no energy is added to or taken away from the fluid.

Binary number system. The binary number system is a number system that has only two digits, 0 (zero) and 1. Binary numbers are made from a series of zeros and ones. An example of an 8-bit binary number is 11010010. The prefix "bi" in the word binary is a Latin root for the word "two."

Block diagrams. Used to show a simplified relationship of a more complex system of components.

Borescope. A device that enables the inspector to see inside areas that could not otherwise be inspected without disassembly.

Boyle's law. States that the volume of an enclosed dry gas varies inversely with its absolute pressure, provided the temperature remains constant.

Break lines. Line on a drawing indicating that a portion of the object is not shown on the drawing.

British thermal unit (Btu). The amount of heat required to change the temperature of 1 pound of water by 1 degree Fahrenheit.

Buoyancy. The upward force that any fluid exerts on a body submerged in it.

Buttock line (BL). The longitudinal axis of the aircraft that serves as the reference location for positions to the left and right of center. The positions are usually dimensioned in inches.

C

Calorie. The amount of heat required to change the temperature of 1 gram of water by 1 degree Centigrade.

Camber. The curvature of a wing as viewed by cross section. A wing has upper camber on its top surface and lower camber on its bottom surface. The upper camber is more pronounced; the lower camber is comparatively flat. This causes the velocity of the airflow immediately above the wing to be much higher than that below the wing.

Capacitance (C). The property of an electric conductor that characterizes its ability to store an electric charge.

Capacitive reactance (X_c). The measure of a capacitor's opposition to alternating current.

Capacitor. An electrical component that stores an electric charge.