

**Magnetic compass.** A device for determining direction measured from magnetic north.

**Magneto.** A self-contained engine-driven unit that supplies electrical current to the spark plugs, completely independent of the airplane's electrical system. Normally there are two magnetos per engine.

**Make/model.** Refers to the manufacturer and model of a specific aircraft.

**Maneuvering altitude.** An altitude above the ground that allows a sufficient margin of height to permit safe maneuvering.

**Maneuvering speed ( $V_A$ ).** The maximum speed at which full, abrupt control movement can be used without overstressing the airframe.

**Maneuverability.** Ability of an aircraft to change directions along a flightpath and withstand the stresses imposed upon it.

**Mast.** The carriage structural component that is attached to the rear of the carriage keel and the top of the front tube. The top is the carriage attachment the wing.

**Maximum gross weight.** The maximum authorized weight of the aircraft and all of its equipment as specified in the POH/AFM/AOI for the aircraft.

**Maximum structure cruising speed ( $V_{NO}$ ).** The speed not to exceed except in smooth air; the upper limit of the green arc.

**Mean aerodynamic chord (MAC).** The average distance from the leading edge to the trailing edge of the wing.

**Mean sea level (MSL).** The average height of the surface of the sea for all stages of tide. A number preceding MSL indicates altitude in feet above mean sea level.

**Mechanical Turbulence.** Type of turbulence caused by obstructions on the ground interfering with smooth flow of the wind. Trees, buildings and terrain can all cause mechanical turbulence.

**Medical certificate.** Acceptable evidence of physical fitness on a form prescribed by the Administrator.

**Medium-banked turn.** Turn resulting from a degree of bank (approximately 20 to 45 degrees) at which the WSC remains at a constant bank.

**METAR.** See Aviation Routine Weather Report.

**Microburts.** A strong downdraft which normally occurs over horizontal distances of 1 NM or less and vertical distances of less than 1,000 feet. In spite of its small horizontal scale, an intense microburst could induce windspeeds greater than 100 knots and downdrafts as strong as 6,000 feet per minute.

**Military Operations Area (MOA).** Airspace of defined vertical and lateral limits established for the purpose of separating certain military training activity from IFR traffic.

**Military Training Routes (MTR).** Special routes developed to allow the military to conduct low-altitude, high-speed training.

**Minimum controllable airspeed.** An airspeed at which any further increase in angle of attack, increase in load factor, or reduction in power, would result in an immediate stall.

**Minimum drag speed ( $L/D_{MAX}$ ).** The point on the total drag curve where the lift-to-drag ratio is the greatest. At this speed, total drag is minimized.

**Mindset.** A factor in aeronautical decision making where decision making is influenced by preconceived ideas about the outcome of events. For example, an expectation of improving weather conditions can lead to increased risk during a flight.

**Mixture.** The ratio of fuel to air entering the engine's cylinders.

**MOA.** See Military operations Area.

**Mode C transponder.** A receiver/transmitter which will generate a radar reply signal upon proper interrogation; the interrogation and reply being on different frequencies. Mode C means the reply signal includes altitude information.

**Moment.** A force that causes or tries to cause an object to rotate. The product of the weight of an item multiplied by its arm. Moments are expressed in pound-inches (lb-in). Total moment is the weight of the PPC multiplied by the distance between the datum and the CG.

**Moment arm.** The distance from a datum to the applied force.

**MSL.** See mean sea level.