

100 entries — every glossary entry under this letter, no curation. Reproduced verbatim from the Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25C (July 2023)), Glossary.

Absolute accuracy

The ability to determine present position in space independently, and is most often used by pilots.

Absolute altitude

The actual distance between an aircraft and the terrain over which it is flying.

Absolute pressure

Pressure measured from the reference of zero pressure, or a vacuum. A.C. Alternating current.

Acceleration

Force involved in overcoming inertia, and which may be defined as a change in velocity per unit of time.

Acceleration error

A magnetic compass error apparent when the aircraft accelerates while flying on an easterly or westerly heading, causing the compass card to rotate toward North.

Accelerate-go distance

The distance required to accelerate to V1 with all engines at takeoff power, experience an engine failure at V1, and continue the takeoff on the remaining engine(s). The runway required includes the distance required to climb to 35 feet by which time V2 speed must be attained.

Accelerate-stop distance

The distance required to accelerate to V1 with all engines at takeoff power, experience an engine failure at V1, and abort the takeoff and bring the airplane to a stop using braking action only (use of thrust reversing is not considered).

Accelerometer

A part of an inertial navigation system (INS) that accurately measures the force of acceleration in one direction.

ADC

See air data computer.

FAA definition of **Air data computer (ADC)**:

An aircraft computer that receives and processes pitot pressure, static pressure, and temperature to calculate very precise altitude, indicated airspeed, true airspeed, and air temperature.

ADF

See automatic direction finder.

FAA definition of **Automatic direction finder (ADF)**:

Electronic navigation equipment that operates in the low- and medium-frequency bands. Used in conjunction with the ground-based nondirectional beacon (NDB), the instrument displays the number of degrees clockwise from the nose of the aircraft to the station being received.

ADI

See attitude director indicator.

FAA definition of **Attitude director indicator (ADI)**:

An aircraft attitude indicator that incorporates flight command bars to provide pitch and roll commands.

Adiabatic cooling

A process of cooling the air through expansion. For example, as air moves up slope it expands with the reduction of atmospheric pressure and cools as it expands.

Adiabatic heating

A process of heating dry air through compression. For example, as air moves down a slope it is compressed, which results in an increase in temperature.

Adjustable-pitch propeller

A propeller with blades whose pitch can be adjusted on the ground with the engine not running, but which cannot be adjusted in flight. Also referred to as a ground adjustable propeller. Sometimes also used to refer to constant-speed propellers that are adjustable in flight.

Adjustable stabilizer

A stabilizer that can be adjusted in flight to trim the airplane, thereby allowing the airplane to fly hands-off at any given airspeed.

ADM

See aeronautical decision-making.

FAA definition of **Aeronautical decision-making (ADM)**:

A systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances.

ADS-B

See automatic dependent surveillance-broadcast.

Advection fog

Fog resulting from the movement of warm, humid air over a cold surface.

Adverse yaw

A condition of flight in which the nose of an airplane tends to yaw toward the outside of the turn. This is caused by the higher induced drag on the outside wing, which is also producing more lift. Induced drag is a by-product of the lift associated with the outside wing.

Aerodynamics

The science of the action of air on an object, and with the motion of air on other gases. Aerodynamics deals with the production of lift by the aircraft, the relative wind, and the atmosphere.

Aeronautical chart

A map used in air navigation containing all or part of the following: topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports.

Aeronautical decision-making (ADM)

A systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances.

Agonic line

An irregular imaginary line across the surface of the Earth along which the magnetic and geographic poles are in alignment, and along which there is no magnetic variation.

Ailerons

Primary flight control surfaces mounted on the trailing edge of an airplane wing, near the tip. Ailerons control roll about the longitudinal axis.

Aircraft

A device that is used, or intended to be used, for flight.

Aircraft altitude

The actual height above sea level at which the aircraft is flying.

Aircraft approach category

A performance grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight.

Air data computer (ADC)

An aircraft computer that receives and processes pitot pressure, static pressure, and temperature to calculate very precise altitude, indicated airspeed, true airspeed, and air temperature.

Airfoil

Any surface, such as a wing, propeller, rudder, or even a trim tab, which provides aerodynamic force when it interacts with a moving stream of air.

Air mass

An extensive body of air having fairly uniform properties of temperature and moisture.

AIRMET

Inflight weather advisory issued as an amendment to the area forecast, concerning weather phenomena of operational interest to all aircraft and that is potentially hazardous to aircraft with limited capability due to lack of equipment, instrumentation, or pilot qualifications.

Airplane

An engine-driven, fixed-wing aircraft heavier than air that is supported in flight by the dynamic reaction of air against its wings.

Airplane Flight Manual (AFM)

A document developed by the airplane manufacturer and approved by the Federal Aviation Administration (FAA). It is specific to a particular make and model airplane by serial number and it contains operating procedures and limitations.

Airplane Owner/Information Manual

A document developed by the airplane manufacturer containing general information about the make and model of an airplane. The airplane owner's manual is not FAA approved and is not specific to a particular serial numbered airplane. This manual is not kept current, and therefore cannot be substituted for the AFM/POH.

Airport diagram

The section of an instrument approach procedure chart that shows a detailed diagram of the airport. This diagram includes surface features and airport configuration information.

Airport/Facility Directory (A/FD)

See Chart Supplement U.S.

Airport surface detection equipment (ASDE)

Radar equipment specifically designed to detect all principal features and traffic on the surface of an airport, presenting the entire image on the control tower console; used to augment visual observation by tower personnel of aircraft and/or vehicular movements on runways and taxiways.

Airport surveillance radar (ASR)

Approach control radar used to detect and display an aircraft's position in the terminal area.

Airport surveillance radar approach

An instrument approach in which ATC issues instructions for pilot compliance based on aircraft position in relation to the final approach course and the distance from the end of the runway as displayed on the controller's radar scope.

Air route surveillance radar (ARSR)

Air route traffic control center (ARTCC) radar used primarily to detect and display an aircraft's position while en route between terminal areas.

Air route traffic control center (ARTCC)

Provides ATC service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight.

Airspeed

Rate of the aircraft's progress through the air.

Airspeed indicator

A differential pressure gauge that measures the dynamic pressure of the air through which the aircraft is flying. Displays the craft's airspeed, typically in knots, to the pilot. Air traffic control radar beacon system (ATCRBS). Sometimes called secondary surveillance radar (SSR), which utilizes a transponder in the aircraft. The ground equipment is an interrogating unit, in which the beacon antenna is mounted so it rotates with the surveillance antenna. The interrogating unit transmits a coded pulse sequence that actuates the aircraft transponder. The transponder answers the coded sequence by transmitting a preselected coded sequence back to the ground equipment, providing a strong return signal and positive aircraft identification, as well as other special data.

Airway

An airway is based on a centerline that extends from one navigation aid or intersection to another navigation aid (or through several navigation aids or intersections); used to establish a known route for en route procedures between terminal areas.

Airworthiness Certificate

A certificate issued by the FAA to all aircraft that have been proven to meet the minimum standards set down by the Code of Federal Regulations.

Airworthiness Directive

A regulatory notice sent out by the FAA to the registered owner of an aircraft informing the owner of a condition that prevents the aircraft from continuing to meet its conditions for airworthiness. Airworthiness Directives (AD notes) are to be complied with within the required time limit, and the fact of compliance, the date of compliance, and the method of compliance are recorded in the aircraft's maintenance records.

Alert area

An area in which there is a high volume of pilot training or an unusual type of aeronautical activity.

Almanac data

Information the global positioning system (GPS) receiver can obtain from one satellite which describes the approximate orbital positioning of all satellites in the constellation. This information is

necessary for the GPS receiver to know what satellites to look for in the sky at a given time.

ALS

See approach lighting system.

FAA definition of **Approach lighting system (ALS)**:

Provides lights that will penetrate the atmosphere far enough from touchdown to give directional, distance, and glidepath information for safe transition from instrument to visual flight.

Alternate airport

An airport designated in an IFR flight plan, providing a suitable destination if a landing at the intended airport becomes inadvisable.

Alternate static source valve

A valve in the instrument static air system that supplies reference air pressure to the altimeter, airspeed indicator, and vertical speed indicator if the normal static pickup should become clogged or iced over.

Altimeter

A flight instrument that indicates altitude by sensing pressure changes.

Altimeter setting

Station pressure (the barometric pressure at the location the reading is taken) which has been corrected for the height of the station above sea level.

Altitude engine

A reciprocating aircraft engine having a rated takeoff power that is producible from sea level to an established higher altitude.

Ambient pressure

The pressure in the area immediately surrounding the aircraft.

Ambient temperature

The temperature in the area immediately surrounding the aircraft.

AME

See aviation medical examiner.

FAA definition of **Aviation medical examiner (AME)**:

A physician with training in aviation medicine designated by the Civil Aerospace Medical Institute (CAMI).

Amendment status

The circulation date and revision number of an instrument approach procedure, printed above the procedure identification.

Ammeter

An instrument installed in series with an electrical load used to measure the amount of current flowing through the load.

Aneroid

The sensitive component in an altimeter or barometer that measures the absolute pressure of the air. It is a sealed, flat capsule made of thin disks of corrugated metal soldered together and evacuated by pumping all of the air out of it.

Aneroid barometer

An instrument that measures the absolute pressure of the atmosphere by balancing the weight of the air above it against the spring action of the aneroid.

Angle of attack

The angle of attack is the angle at which relative wind meets an airfoil. It is the angle that is formed by the chord of the airfoil and the direction of the relative wind or between the chord line and the flight path. The angle of attack changes during a flight as the pilot changes the direction of the aircraft and is related to the amount of lift being produced.

Angle of incidence

The acute angle formed between the chord line of an airfoil and the longitudinal axis of the aircraft on which it is mounted.

Anhedral

A downward slant from root to tip of an aircraft's wing or horizontal tail surface.

Annual inspection

A complete inspection of an aircraft and engine, required by the Code of Federal Regulations, to be accomplished every 12 calendar months on all certificated aircraft. Only an A&P technician holding an Inspection Authorization can conduct an annual inspection.

Anti-ice

Preventing the accumulation of ice on an aircraft structure via a system designed for that purpose.

Antiservo tab

An adjustable tab attached to the trailing edge of a stabilator that moves in the same direction as the primary control. It is used to make the stabilator less sensitive.

Approach lighting system (ALS)

Provides lights that will penetrate the atmosphere far enough from touchdown to give directional, distance, and glidepath information for safe transition from instrument to visual flight.

Area chart

Part of the low-altitude en route chart series, this chart furnishes terminal data at a larger scale for congested areas.

Area forecast (FA)

A report that gives a picture of clouds, general weather conditions, and visual meteorological conditions (VMC) expected over a large area encompassing several states.

Area navigation (RNAV)

Allows a pilot to fly a selected course to a predetermined point without the need to overfly ground-based navigation facilities, by using waypoints.

Arm

See moment arm.

FAA definition of **Moment arm**:

The distance from a datum to the applied force.

ARSR

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ASOS

See Automated Surface Observing System.

FAA definition of **Automated Surface Observing System (ASOS)**:

Weather reporting system which provides surface observations every minute via digitized voice broadcasts and printed reports. Automated Weather Observing System (AWOS). Automated weather reporting system consisting of various sensors, a processor, a computer-generated voice subsystem, and a transmitter to broadcast weather data. Automatic dependent surveillance—broadcast (ADS-B). A function on an aircraft or vehicle that periodically broadcasts its state vector (i.e., horizontal and vertical position, horizontal and vertical velocity) and other information.

Aspect ratio

Span of a wing divided by its average chord.

ASR

See airport surveillance radar.

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Approach control radar used to detect and display an aircraft's position in the terminal area.

Asymmetric thrust

Also known as P-factor. A tendency for an aircraft to yaw to the left due to the descending propeller blade on the right producing more thrust than the ascending blade on the left. This occurs when the aircraft's longitudinal axis is in a climbing attitude in relation to the relative wind. The P-factor would be to the right if the aircraft had a counterclockwise rotating propeller.

ATC

Air Traffic Control.

ATCRBS

See air traffic control radar beacon system.

ATIS

See automatic terminal information service.

FAA definition of **Automatic terminal information service (ATIS)**:

The continuous broadcast of recorded non-control information in selected terminal areas. Its purpose is to improve controller effectiveness and relieve frequency congestion by automating repetitive transmission of essential but routine information.

Atmospheric propagation delay

A bending of the electromagnetic (EM) wave from the satellite that creates an error in the GPS system.

Attitude

A personal motivational predisposition to respond to persons, situations, or events in a given manner that can, nevertheless, be changed or modified through training as sort of a mental shortcut to decision-making.

Attitude and heading reference system (AHRS)

A system composed of three-axis sensors that provide heading, attitude, and yaw information for aircraft. AHRS are designed to replace traditional mechanical gyroscopic flight instruments and provide superior reliability and accuracy.

Attitude director indicator (ADI)

An aircraft attitude indicator that incorporates flight command bars to provide pitch and roll commands.

Attitude indicator

The foundation for all instrument flight, this instrument reflects the airplane's attitude in relation to the horizon.

Attitude instrument flying

Controlling the aircraft by reference to the instruments rather than by outside visual cues.

Attitude management

The ability to recognize hazardous attitudes in oneself and the willingness to modify them as necessary through the application of an appropriate antidote thought.

Autokinesis

Nighttime visual illusion that a stationary light is moving, which becomes apparent after several seconds of staring at the light.

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Automatic direction finder (ADF)

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Autopilot

An automatic flight control system which keeps an aircraft in level flight or on a set course. Automatic pilots can be directed by the pilot, or they may be coupled to a radio navigation signal.

Aviation medical examiner (AME)

A physician with training in aviation medicine designated by the Civil Aerospace Medical Institute (CAMI).

Aviation Routine Weather Report (METAR)

Observation of current surface weather reported in a standard international format.

AWOS

See Automated Weather Observing System.

Axes of an aircraft

Three imaginary lines that pass through an aircraft's center of gravity. The axes can be considered as imaginary axes around which the aircraft rotates. The three axes pass through the center of gravity at 90° angles to each other. The axis from nose to tail is the longitudinal axis (pitch), the axis that passes from wingtip to

wingtip is the lateral axis (roll), and the axis that passes vertically through the center of gravity is the vertical axis (yaw).

Axial flow compressor

A type of compressor used in a turbine engine in which the airflow through the compressor is essentially linear. An axial-flow compressor is made up of several stages of alternate rotors and stators. The compressor ratio is determined by the decrease in area of the succeeding stages.

Azimuth card

A card that may be set, gyroscopically controlled, or driven by a remote compass.