

Aviation Terminology



A

Absolute Altitude – The vertical distance between the aircraft and ground level.

Absolute Ceiling – The highest altitude an aircraft can fly at maximum throttle while maintaining level height and constant airspeed.

Accelerated Stall – A stall that occurs at a higher airspeed than a normal stall due to a higher load factor (g).

ADF (Automatic Direction Finder) – A navigation system that identifies the relative bearing of an aircraft based on a radio beacon transmitting in the MF or LF bandwidth.

Adiabatic Lapse Rate – The rate at which temperature changes due to increasing and decreasing altitude, under conditions of thermal equilibrium.

Adverse Yaw – When an aircraft turns in the opposite direction of a roll due to use of ailerons and the difference in lift and drag of each wing.

AGL (Above Ground Level) – The vertical distance measured between the aircraft and a specific land mass.

Aileron – The movable, hinged flight control surfaces that are used in pairs with opposite motions to control the roll of an aircraft.

Airfoil – The cross-sectional shape of a wing, blade, turbine, or rotor that produces lift.

Airline – A company or organisation that offers regularly scheduled flights and routes.

Airspace Classes – The different types of airspace defined by ICAO and adopted around the world. They include controlled, uncontrolled, and special use airspace.

Air Speed Indicator (ASI) – A pitot-static flight instrument that indicates airspeed of an aircraft through an air mass in miles per hour, knots, or both.

Altimeter – An instrument that measures an object's altitude above a fixed surface.

Altitude Indicator – An instrument that indicates aircraft orientation relative to earth's horizon.

AME – Aviation Medical Examiner

Angle of Attack – The angle between a reference line on an airfoil and the direction of the oncoming air.

Angle of Incidence – The angle at which a reference line on an airfoil is perpendicular to the aircraft's longitudinal surface axis.

Anhedral – The downward angle of aircraft wings from the horizontal cross-section of the wings.

Approach – The phase of flight when the pilot intends to land on the runway. There are different types of approaches, depending on whether the pilot is flying VFR or IFR.

Apron – The paved area at an airport where aircraft park, fuel, load, and unload.

ATC (Air Traffic Control) – A ground-based service that ensures safety of air traffic by directing aircraft in the area during take-off, landing, and while flying in the designated airspace.

ATIS (Automatic Terminal Information Service) – A continuous broadcast of pre-recorded aviation information available to pilots around specific terminals. The information is constantly updated and designed for mass spreading of relevant information, which is particularly useful at busy airports.

Avionics Master Switch – A single switch that controls the electrical power for an aircraft's electronic communication and navigation instruments.

B

Base Leg – The flight path in an airport pattern that runs in the runway landing direction.

Baseline – The minimum or starting point used for comparison.

Best Lift Over Drag Ratio – Often referred to as ‘L over D Max’, this is the highest value of ratios of lift to drag for any airfoil.

Blade Angle – The angle between the reference line of a propeller blade and a plane perpendicular to the axis of rotation.

Bleed Air – Hot compressed air produced during the compressor stage of aircraft engine operation.

C

Cabin Crew – The airline staff members responsible for the safety and comfort of passengers during flight, typically the flight attendants.

Calibrated Airspeed – The indicated airspeed corrected for position and instrument error.

Camber – The convexity of curve on an aircraft wing.

Cargo – Goods carried on an aircraft.

Ceiling – The height of the lowest cloud layer or obscuring phenomena that is reported as “broken”, “overcast”, or “obscuration”, and not classified as “thin” or “partial”.

Center of Gravity (CG) – The longitudinal and lateral point over which the aircraft would balance.

Charter – The business of renting all seats on an aircraft rather than a commercial flight where seats are sold individually.

Chord Line – The imaginary straight line running between the airfoil's leading and trailing edges.

Clearance – The authorisation provided by air traffic control for aircraft to proceed with a particular action in controlled airspace, which is designed to prevent aircraft collisions.

Climb – The act of increasing aircraft altitude, typically to a designated level.

Cockpit – The cockpit of a plane is located at the front. It contains the instrument panel and pilots seats.

Constant-Speed Propeller – A propeller designed to maintain a consistent engine RPM by automatic increases and decreases of the blade pitch.

Contrail – A streak of condensed water vapor in the air due to the heat produced by aircraft engines at high altitudes.

Controlled Airspace – Designated airspace within which Air Traffic Control provides aircraft movement instructions and regulations.

Course Deviation Indicator (CDI) – A navigational instrument that displays the lateral course deviation. When the aircraft is flying left of the selected course, the needle deflects proportionally to the right. When the aircraft is flight right of the selected course, the needle deflects proportionally to the left.

Cross-Country Flight (XC) – A cross-country flight requires special flight planning. This is required by the FAA to earn your PPL. A pilot must land at an airport other than the place of departure. Three full-stop landings are required.

Crosswind – Wind that is blowing perpendicular to the aircraft course.

D

DA (Density Altitude) – Density altitude is the air density given as a height above mean sea level. The density altitude is considered to be the pressure altitude adjusted for a non-standard temperature.

Descent – The act of decreasing aircraft altitude, typically to a designated level.

Distance Measuring Equipment (DME) – Radio navigation technology used to measure the distance between the aircraft and a ground station.

Distress – An internationally recognised signal for danger and need for immediate assistance.

DME – Designated Mechanic Examiner

Downwind Leg – A flight path parallel to but running the opposite direction of the runway intended for landing.

Drag – A parallel and opposing force to an aircraft's motion through the air.

E

EASA – European Aviation Safety Agency

Elevator – Horizontal surfaces that control aircraft pitch and are typically hinged to the stabiliser.

Empennage – Another phrase for the tail of an aircraft, which provides stability during flight.

ETA (Estimated Time of Arrival) – The time you will arrive at a destination, based on the local time.

ETD (Estimated Time of Departure) - The time you plan to depart.

ETE (Estimated Time en Route)– The amount of time you will spend traveling to a destination.

F

Feathering – The act of adjusting variable pitch propellers so that the blades are in line with airflow and don't create air resistance.

Ferry Flight – A flight intended to return an aircraft to base; deliver a new aircraft from the manufacturer to the purchaser; move an aircraft from one operations base to another; or moving an aircraft for the purpose of maintenance.

Final Approach – A flight path running in the direction of the runway intended for landing that ends with a landing.

Flaps – Flaps are a kind of high-lift device used to increase the lift of an aircraft wing at a given airspeed. Flat devices, typically located on the edges of an aircraft wing, that control lift at specific speeds.

Flare – A manoeuvre that typically occurs during the landing stage of an aircraft. The aircraft nose is pointed upwards, which lowers the descent rate in preparation for landing.

Flight Bag – A pilot flight bag is used to carry required documents and helpful tools, such as a kneeboard, headset, and checklists.

Flight Deck – An area at the front of airplane where the pilot and aircraft controls are situated – in other words, the cockpit.

Flight Plan – Formatted information provided by pilots or dispatchers regarding an upcoming flight, including details such as destination, path, timing, etc.

F/O (First Officer) – Second in command of the aircraft

Fog – Fog is a thick cloud of tiny water droplets at or near Earth's surface that obscures visibility.

Fuselage – The central portion of an aircraft, which is intended to house the flight crew, passengers, and cargo.

G

General Aviation – The division of civil aviation aircraft operations that includes all but commercial air transport and aerial work.

Glass Cockpit – A term used to describe an aircraft that is fully equipped with electronic, digital flight instrument displays, instead of analog-style gauges.

Go-Around – A go-around occurs when the pilot abandons a landing and goes around the flight pattern before attempting to land.

Gross Weight – The aircraft weight including people, cargo, fuel, etc.

Ground Effect – The increasing lift and decreasing drag that occurs as a result of an aircraft's wings as it gets closer to the ground.

Groundspeed – The horizontal speed of an aircraft relative to the surface below.

H

Hangar – A building made to hold aircraft for storing, maintenance, assembly...

Heavy – ATC uses this term to refer to larger aircraft with a maximum takeoff weight of 136 tonnes or more.

Horizontal Stabiliser – The horizontal stabiliser prevents up-and-down, or pitching, motion of the aircraft nose.

Hypoxia – A condition caused by low levels of oxygen that can lead to dizziness, disorientation, etc, posing extreme danger to pilots operating aircraft at high altitudes.

I

ICAO – International Civil Aviation Organisation – A specialised agency of the United Nations. Supports aviation and navigation around the globe.

Instrument Flight Rules (IFR) – Regulations that define aircraft operations when pilots are not able to operate using visual references.

Instrument Landing System (ILS) – A ground-based system that provides directional information for aircraft attempting to land in low visibility situations.

Indicated Airspeed (IAS) – The speed of an aircraft displayed on the airspeed indicator, which is determined by the pitot-static tube and does not take into account any outside factors.

Instrument Meteorological Conditions (IMC) – Weather conditions that describe a situation where pilots are not able to operate using visual references.

J

Jet – An aircraft propelled by one or more jet engines.

Joystick – The control column in the aircraft is often called a joystick. It is the main device that controls the aircraft and is typically mounted on the ceiling or floor if the aircraft has a joystick instead of a yoke.

K

KCAS (Knots Calibrated Airspeed) – Indicated airspeed corrected for instrument and position error

KIAS (Knots Indicated Airspeed) – Read directly from the airspeed indicator

Knot – A measurement of speed that takes into account nautical miles:
1 knot = 1 nautical mile per hour = 6076 feet per hour. 1 mph = 1 mile per hour = 5280 feet per hour.

KTAS (Knots True Airspeed) – The speed of the aircraft relative to the air mass in which it is flying.

L

Laminar Flow Airfoil – The smooth airflow over an aircraft wing with minimised drag.

Lift – The force that directly opposes aircraft weight, generated primarily by the wings.

Load Factor (g) – The smooth airflow over an aircraft wing with minimised drag.

Longitudinal Axis – The directional that runs horizontally from the aircraft nose to tail.

M

Mach – The ratio of aircraft speed to the speed of sound through the medium where the aircraft is traveling.

Magnetic Compass – The directional orientation of an aircraft according to the geomagnetic field.

Magnetic Deviation – The error produced by the unavoidable magnetic impact of aircraft materials.

Magnetic North – Unlike the geographical north (North Pole), this point is the location indicated as North by where the compass points.

Magneto – An aircraft engine component that generates high voltage to ignite spark plugs.

Mean Sea Level (MSL) – The average level of the surface an ocean used as a basis for vertical measurements.

METAR – A pilot weather report delivered on a continuous basis.

Morse Code – Pilots learn Morse code to identify aircraft call signs since NDBs and VORs still send their identifying letters this way.

MTOW – Maximum Take-Off Weight

N

Narrow Body Aircraft – A smaller type of aircraft that has a single-aisle inside. It can carry 4 to 300 passengers.

NDB – Non-directional beacon is a radio transmitter at a known location used as a navigation aid.

NOTAMs – Abbreviation for “Notices to airmen.” which are written notices provided to pilots prior to flights advising them of relevant circumstances.

O

OAT – Outside Air Temperature

Operating Limitations – Restrictions defined by an aircraft manufacturer including airspeed, weight, etc.

Overshoot – Landing aircraft beyond the runway.

P

Payload – The weight of the content carried in an aircraft, including passengers, pilots, cargo, etc.

Pilot in Command (PIC) – The designated individual that is responsible for safe aircraft operations during flight.

Pitch – The movement of an aircraft, characterised by the nose and tail rising and falling.

Pitot Tube – A small device located on the front outside edge of an airfoil, used to measure air pressure.

POH (Pilot’s Operating Handbook) – An aircraft flight manual containing pertinent safety information.

Primary Flight Display (PFD) – The main screen used by pilots in aircraft containing an electronic flight instrument system.

Propeller – A piece of aircraft equipment that contains rotating blades, creating engine thrust.

Q

Quebec – Aeronautical alphabet for Q

R

Roll – Aircraft rotation along the longitudinal axis, which runs from the nose to tail.

Rudder – An aircraft surface used to control the yaw movement.

Runway (RWY) – A “defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft”.

Runway End Safety Area (RESA) – A surface located beyond the runway designated as a place for aircraft to enter in an attempt to minimise risk during unplanned occurrences, such as an overshoot.

S

Second in command (SIC) – The designated individual to take over flight operations from the PIC.

Short Field – A runway that is shorter in length and requires aircraft to minimise the amount of runway used when taking off or landing.

Sideslip – An aircraft movement that typically aligns with the lateral force of the wind and results in a sideways flow.

Skid – The sliding and outward pivoting movement of the aircraft that occurs as a result of a shallow turn.

Slip – The sliding and inward pivoting movement of the aircraft that occurs as a result of a steep turn.

Soft Field – A runway that is not paved and made of elements such as dirt or grass.

Squawk – A four-digit transponder code given to an aircraft by ATC to allow for simple identification of an aircraft in a given region.

Stability – Aircraft are subject to static, dynamic, longitudinal, lateral, and directional stability that impact flying conditions.

Stall – The condition that occurs as a result of an aircraft exceeding its angle of attack and therefore experiencing decreased lift.

Standard Rate Turn – A turn that an aircraft makes at a rate of 3°/second or a 360° turn in two minutes.

Straight-and-Level Flight – Maintaining a consistent heading and altitude during flight.

T

Tail – The rear aircraft structure that provides aerodynamic stability.

Tarmac – The paved area at an airport where aircraft park, fuel, load, and unload.

Threshold – The area of a runway, designated with particular markings, indicating the beginning of a runway.

Throttle – A device that controls the amount of power outputted by the engine.

Thrust – A force which opposes aircraft drag and is created by the engines to propel the aircraft forward.

Torque – A force that is intended to produce rotation.

Touch-and-Go – An aircraft manoeuvre used to practice landing techniques by simply landing on the runway and taking off once more without coming to a full stop.

Transponder – An electronic device on airplanes that generate an output code, which is used for ATC identification purposes. Also known as 'squawk'.

Trim Tab – Small surfaces on the trailing edge of a bigger control surface used to counteract the aerodynamic forces on the bigger control surface.

True Airspeed – The speed of an aircraft is the speed corrected for the errors caused by altitude and temperature.

True Altitude – The vertical height of an aircraft above Mean Sea Level (MSL).

Turbulence – A sudden violent shift in air flow caused by irregular atmospheric motion.

TWR – Tower

TWY – Taxiway

U

Upwind Leg – The flight path in an airport pattern that runs parallel to the runway landing direction, along the same direction the aircraft will be landing.

Useful Load – The weight of the items that can be taken out of the aircraft, including fuel, passengers, cargo, pilots, etc.

UTC (Universal Time Coordinated) – The primary time standard used to regulate clocks and time around the world.

V

Vertical Speed Indicator (VSI) – A device that provides the feet per minute (fpm) rate at which an aircraft is climb or descending.

Very High Frequency (VHF) Omni-Directional Range (VOR) – A short-range radio aircraft navigation system that allows equipped aircraft to receive directional information through radio signals from ground-based beacons.

Visual Flight Rules (VFR) – Regulations that define aircraft operations when pilots are able to operate using visual references.

VFR On Top – The condition where IFR conditions exist, however VFR conditions exist above the cloud layer.

Visual Meteorological Conditions (VMC) – Weather conditions that describe a situation where pilots are able to operate using visual references.

W

Wide Body Aircraft – An aircraft with two aisles inside. The typical fuselage diameter is 16 to 20 feet.

Wind Shear – An abrupt change in horizontal or vertical wind direction.

Wx – weather

X

XC – Cross-country

Y

Yaw – The movement of an aircraft around the vertical axis, characterised by the nose moving side-to-side. The rudder controls yaw.

Yoke – The aircraft control devices used by pilot for changes in attitude, as well as pitch and roll movement.

Z

Zulu Time – A term synonymous with UTC (Universal Coordinated Time), which is the same as Greenwich Mean Time. Pilots file all flight plans in Zulu Time.