



# Aviation Dictionary



## AEROBATICS

spectacular stunts, such as rolls and loops, performed in general aviation aircraft specially designed to withstand the stresses of such maneuvers.

## AERODYNAMICS

forces—such as resistance, pressure and velocity—that affect the movement of air around moving objects, such as aircraft

## AERONAUTICAL CHARTS

maps of the airspace designed to help pilots navigate.

## AILERONS

movable aircraft control surfaces located near the end of the wing which are used to make an aircraft bank or roll.

## AIRCRAFT

any man-made object that flies, including airplanes, blimps and helicopters.

## AIRFOIL

any surface designed to provide lift from the air through which it moves, including wings, control surfaces and propeller blades.

## AIRFRAME

the structure of the aircraft, not including the powerplant or engine.

## AIRLINE

a company that is in the business of providing scheduled transportation.

## AIRPORT

a field from which aircraft land and take off.

## AIRSPACE

the part of the atmosphere above a particular land area.

## AIRSPEED

the speed of an aircraft relative to the air.

## AIR TAXI

a company that provides on-demand (instead of scheduled) commercial air transportation.

## AIR TRAFFIC CONTROL (ATC)

the system of ground-based facilities that coordinates the movement of aircraft by tracking their progress using radar and communicating with pilots via radio.



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## AIR TRAFFIC CONTROLLER

a person who communicates with a pilot, usually by radio, directing the movement of aircraft, especially close to an airport.

## AIRWAYS

highways in the sky.

## ALTIMETER

a device that measures changes in air pressure to calculate how high an aircraft is flying.

## ALTITUDE

the height that an aircraft is flying above the ground, usually expressed in the number of feet above sea level.

## ANTI-ICING

a substance applied to the exterior of an aircraft before flight to prevent the formation of ice, which can impair the ability of an aircraft to fly. Also, a system that is used on board an aircraft to prevent the formation of ice on the wings, propellers, engine inlets and control surfaces.

## APPROACH

the phase of flight in which an aircraft has started its descent toward its destination airport.

## ATTITUDE

the position of an aircraft in relation to the earth's horizon.

## AUTOPILOT

short for "automatic pilot," this is a control system that keeps an aircraft on a set course or speed so that the pilot does not have to steer or add power to the aircraft. Autopilots are most often used during the level, cruising portion of a flight.

## AVIATOR

a person trained and qualified to fly and aircraft; a pilot.

## AVIONICS

short for "aviation electronics," any electronic system used on an aircraft, primarily for navigation and communication.

## BANK

to tilt an aircraft laterally and inwardly during forward flight.

## BUSINESS AIRCRAFT

a general aviation aircraft used to support a business.



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## BUSINESS AVIATION

the use of general aviation aircraft to support a business. These activities can range from individuals who fly rented, single-engine, piston-powered airplanes to companies that have flight departments that operate fleets of jet airplanes and helicopters.

## BUSINESS JET

a jet-powered general aviation aircraft that is used to support a company's business.

## CAPTAIN

the pilot in command or aviator in charge of the flight who usually sits in the left seat of the cockpit.

## CEILING

the highest altitude from which the ground is still visible in a particular weather condition.

## CHECKLIST

a written list of procedures used by pilots to ensure that all the items that need to be accomplished during a flight are actually performed.

## CLEARANCE

permission granted by an air traffic controller that allows a pilot to taxi, land or takeoff an aircraft.

## CERTIFICATION

official approval granted by a government agency qualifying a pilot or aircraft to fly.

## COCKPIT

the forward compartment of an aircraft where the pilots sit.

## COCKPIT VOICE RECORDER

an audio system that records all the sounds made in the cockpit. Enclosed in a crash-proof container this "black box" is used by accident investigators to help determine why an aircraft crashed.

## COLLISION AVOIDANCE SYSTEM

a device that can detect when one aircraft might be flying too close to another and tells a pilot which direction to turn in order to avoid a collision.

## COMPASS

a magnetic device that helps determine the direction of an aircraft is flying.

## CONTROL SURFACES

moveable parts of the aircraft's wing and tail (or empennage) that are used to make an aircraft climb, descend, or turn.



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## CONTROL TOWER

The building where air traffic controllers direct the movement of aircraft on and around an airport.

## COPILOT

a second pilot, who usually sits in the right seat of the cockpit assisting the captain (or pilot in command), who usually sits in the left seat of the cockpit.

## CORPORATE AIRCRAFT

a general aviation aircraft used to support a corporation's business activities.

## CORPORATE AVIATION

often used interchangeably with the term "business aviation," this refers to the use of general aviation aircraft to support corporate business. Most corporations have flight departments that operate just one airplane, but some large corporations fly and maintain fleets of airplanes and helicopters.

## COWLING

a removable cover or housing placed around a section of the aircraft, usually an engine.

## CROSSWIND

any wind that blows across the intended course of an aircraft, causing it to drift off course.

## CRUISING SPEED

a steady, moderate speed considered optimum for long-range flight.

## DEICING

a system or substance that removes ice that has formed on an airborne aircraft.

## DOWNWIND

moving in the same direction as the wind is blowing.

## DRAG

the air resistance encountered as an aircraft tries to move forward.

## ELEVATOR

the control surface located on the horizontal tail of an aircraft that, when move by the pilot, makes the airplane climb or descend.

## EMPENNAGE

the rear portion or tail of the aircraft.

## EMPTY WEIGHT

the weight of the aircraft alone, not including fuel, passengers or baggage.

## ENROUTE

on or along the way.



# Aviation Dictionary



## FEDERAL AVIATION ADMINISTRATION (FAA)

The U.S. government agency that established and enforces rules for aviation.

## FIXED BASE OPERATOR (FBO)

an airport-based fueling and service center for aircraft, similar to a gas station for cars.

## FLAPS

devices located on the trailing or rearward portion of the wing that can be extended to increase lift and drag, especially during takeoff or landing.

## FLIGHT ATTENDANT

a person whose job is to help insure the safety and comfort of aircraft passengers by providing meal, beverages and instructions on what to do in case of emergency.

## FLIGHT DATA RECORDER

a system that records the airspeed, altitude, heading and other operating characteristics of an aircraft in flight. Enclosed in a crash-proof container, this “black box” is used by accident investigators to help determine why an aircraft crashed.

## FLIGHT DEPARTMENT

the organizing within a company that is responsible for flying and maintaining aircraft. People who work in a flight department can include pilots, maintenance technicians, schedulers/dispatchers and flight attendants.

## FLIGHT MANUAL

a guide issued by an aircraft manufacturer that contains official information regarding the speed, operating limits and other essential guidelines for safely operating an aircraft.

## FLIGHT PLAN

a formal document that describes the intended course of a planned flight.

## FLIGHT SERVICE STATION (FSS)

an official aviation information center that pilots use to obtain up-to-date information on weather and airport conditions before beginning the flight.

## FUSELAGE

the body of an airplane to which the wing, tail and landing gear are attached.

## GENERAL AVIATION

all flying activities other than commercial (airline) and military aviation.

General aviation aircraft, which includes everything from two-seat training airplanes to intercontinental business jets, can fly to about 10 times the number of airports that airlines can.



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## GLIDE SLOPE

the part of an instrument landing system that provides a radio beam so that the pilot can follow a standard descent path to land at an airport.

## GROSS WEIGHT

the maximum weight than an aircraft is designed to carry when taking off.

## HANGAR

an airport building specially designed to house an aircraft.

## HEADING

the course or direction in which an aircraft is moving, generally expressed in degrees of a circle (from zero to 360).

## HEADWIND

a wind blowing directly against the course of an aircraft.

## HELICOPTER

a type of aircraft that uses a rotor or propeller mounted on top of the fuselage to take off and land vertically, which allows it to operate without using a runway or airport.

## HELIPAD OR HELIPORT

a small structure or paved area that is used by helicopters to take off and land vertically.

## HOLDING PATTERN

to fly in a circle until an air traffic controller clears a pilot to proceed towards his destination.

## INSTRUMENT FLIGHT RULES (IFR)

the regulations for flying an aircraft when clouds, fog or other weather conditions make it difficult or impossible to fly sight alone.

## INSTRUMENT LANDING SYSTEM (ILS)

electronic navigation equipment that uses a radio beam to guide pilots of descending aircraft along a standard path so they can land on a runway.

## INSTRUMENT PANEL

the section of the cockpit located in front of the pilot that houses all the instruments, gauges and indicators that tell the pilot important information, such as airspeed, altitude and heading. The instrument panel is similar to an automobile dashboard.

## JET

a type of aircraft powerplant that uses a turbine, which increases the flow of air through an engine, for power.



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## KNOT

a unit of aviation speed that equals one nautical mile per hour, which is equivalent to 1.151 miles per hour.

## LANDING GEAR

a system of wheel, floats or skis that are used to support an aircraft when it is on the ground or in the water. Landing gears either are “fixed” (permanently extended) or “retractable” (which means they are pulled back inside the fuselage or wings of the aircraft once it becomes airborne).

## LIFT

the aerodynamic force that tends to keep an aircraft in the air.

## LOGBOOK

a book that contains a record of flights made by a pilot or maintenance procedures performed on an aircraft during its lifetime.

## MAINTENANCE TECHNICIAN

a person who is trained and certified to maintain or repair an aircraft.

## MULTIENGINE

an aircraft that has more than one engine.

## NACELLE

the streamlined housing that encloses the engine.

## “N” NUMBER OR TAIL NUMBER

the license plate of an aircraft that contains a series of number and/or letters that are painted on the fuselage near the tail of an aircraft.

All aircraft registered in the United States have registration numbers that begin with the letter “N”.

## NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)

The agency of the U.S. government that is responsible for investigating aircraft accidents.

## NAUTICAL MILE

the standard unit of distance used in aviation. It equals 6,080 feet or 1.151 miles.

## NAVAIDS

a shortened form of the words “navigational aids”.

It refers to any system or device used to help guide a pilot while flying an aircraft.

## NAVCOM

a shortened for of the works “navigation-communication.” It refers to any piece of aircraft equipment used by the pilot for navigation or communication purposes.



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## NOSE

the front portion of the aircraft.

## NOTICE TO AIRMEN (NOTAM)

special announcements used to alert pilots of unusual conditions around an airport.

## OXYGEN MASK

a small face mask that is connected to a canister of oxygen. This system is used by each person on board an aircraft in case there is a malfunction in the aircraft's pressurization system, which normally supplies air to breath at high altitudes.

## PAYLOAD

the total weight of passengers and cargo that an aircraft carries or can carry.

## PILOT

a person trained and certified to fly an aircraft; an aviator.

## PILOT IN COMMAND

the captain or aviator in charge of the flight, who usually sits in the left seat of the cockpit.

## PITCH, ROLL AND YAW

terms used to describe the three-dimensional movement of an aircraft. Pitch is the rotation of an airplane around its lateral axis. Roll is the motion of an aircraft around its longitudinal axis. Yaw is the movement of an airplane around its vertical axis.

## POWERPLANT

an engine used to power an aircraft. There are four basic types of powerplants:

**A piston engine**, which is similar to the engine used in a car, turns a propeller, which propels an aircraft by pulling the air over the wings.

**A jet engine** uses a turbine to accelerate the flow of air without using a propeller.

**A turboprop** uses a jet engine combine with a propeller.

**A turboshaft engine** uses a jet engine and a rotor (or horizontally mounted propeller) to lift a helicopter and allow it to take off and land vertically.

## PREFLIGHT

the testing procedure a pilot uses before flying to ensure that an aircraft's equipment and systems are working properly.

## PROPELLER

a rotating airfoil with two, three or four blades that is used to move an airplane forward.

## PRESSURIZATION

a system designed to maintain normal air pressure in an aircraft at higher altitudes, where the air is too thin to allow proper breathing.





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## RADAR

a shortened form of the words “radio detection and ranging.”

Radar is a system that uses electronic pulses to measure how far away an object is.

The distance is measured by timing how long it takes for the pulses to be transmitted from an airplane or ground facility and reflect or bounce off an object and return to their source.

Airborne radar is used by pilots to detect thunderstorms and other severe weather, while ground-based radar is used by air traffic controllers to track the direction and speed of aircraft.

## RAMP

the paved area, usually located next to a hangar, where aircraft can be loaded, unloaded or parked.

## RANGE

the maximum distance an aircraft can fly without being refueled.

## RIVET

a small metal pin that is used to attach the various sheet metal parts of an aircraft.

## ROTORCRAFT

an aircraft that uses rotors; a helicopter.

## RUDDER

the movable vertical portion of the tail (or empennage) that is used to control the yawing movement of an aircraft.

## RUN-UP

the process of increasing the power of an aircraft engine before takeoff to check and see that the powerplant and propeller are operating properly.

## RUNWAY

a strip of level, usually paved ground on which aircraft take off and land.

## SCHEDULER/DISPATCHER

a member of the flight department who is responsible for making all the non-mechanical arrangements—such as obtaining permits—to prepare an aircraft for a flight. They also make and maintain lists of the times that an aircraft is supposed to depart, arrive and be serviced.

## SIMULATOR

a mechanical device that resembles a cockpit and is used by pilots to learn and practice flight maneuvers while on the ground.

## SKIN

the outer covering of an aircraft, usually made of sheet metal, but also can be fabric or wood, especially on older planes.



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## SPIN

a maneuver in which the aircraft, after experiencing an aerodynamic stall, descends with its nose pointing toward the ground while turning rapidly around its vertical axis.

## STABILIZER

a fixed (non-movable) horizontal or vertical part of the tail that keeps the aircraft stable as it flies.

## STALL

an aerodynamic condition in which the smooth flow of air over a wing or other airfoil is disrupted, thus decreasing the amount of lift produced and causing the aircraft to cease flying.

## STICK

the control and steering wheel of an airplane, sometimes call the “yoke.”

## TAIL

the rear most part of an aircraft fuselage.

## TAILWIND

a wind that is blowing from behind an aircraft, helping it fly faster.

## TAKEOFF

the point in a flight when the aircraft leaves the ground or runway and becomes airborne.

## TAXI

to move an aircraft slowly on the ground or on the surface of the water before takeoff or after landing.

## TAXIWAY

a paved strip on the airport that leads from the ramp to the runway.

## THROTTLE

the cockpit lever that increases engine power, allowing an aircraft to takeoff or accelerate if it is already airborne.

## THRUST

the forward force developed in a jet engine as a reaction to the high-velocity rearward ejection of exhaust gases.

## TOUCHDOWN

the moment when the wheels of a landing aircraft touch the surface of a runway.

## TRAFFIC PATTERN

a low-altitude course, usually an oval, around an airport that airplanes must follow in order to ensure the safe flow of aircraft to the runway.



# Aviation Dictionary



## TRANSPONDER

a transmitter-receiver that sends a unique, coded signal to ground radars, thus allowing air traffic controllers to identify and track individual aircraft.

## TRIM

a device that allows the pilot to adjust the attitude of the aircraft without having to constantly move the elevators.

## TURBULENCE

a disturbance or uneven flow of air that causes an aircraft to bounce in flight.

## UPWIND

flying an aircraft in the opposite direction the wind is blowing.

## VECTOR

a heading given to a pilot by an air traffic controller via a radio communication.

## VISIBILITY

the distance that one can see clearly in the air.

## VISUAL FLIGHT RULES

the regulations for flying an aircraft in clear weather by sight alone.

## WAYPOINT

a reference point in the airspace used for navigational purposes.

## WEATHER BRIEFING

the official forecast information that a pilot gets from a flight service station before departing on a flight.

## WEIGHT AND BALANCE

the mathematical calculations done to determine if the cargo and/or passengers aboard an aircraft are loaded properly.

## WING

the large airfoils that extend out from either side of the middle on an airplane's fuselage to provide the lift needed to fly.

## YOKE

the control and steering wheel of an airplane, sometimes called the "stick."



# Aviation Dictionary



## AVIATION ALPHABET

In aviation, letter pronunciation can be so easily misunderstood (such as hearing an “S” for an “F” or a “B” for a “D”), especially when speaking over a radio. So the letters in aviation are spoken using the International Phonetic Alphabet (“Aviation Alphabet”), developed by the International Civil Aviation Organization to allow aviation personnel around the world to communicate clearly. This alphabet substitutes an entire word to represent one letter. The first letter of the word is the letter of the alphabet it represents. It would be difficult to confuse “Sierra” (the letter “S”) for the letter “F” (said as “Foxtrot”).

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-Ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

Can you spell your name using the “secret code” Aviation Alphabet?

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