Talk The Talk

Aviation uses so many specialized terms that it's easy for nonpilots to get lost in the lingo. Here is a list of the most common aviation acronyms you may see in Flight Simulator World and other aviation related materials.

Accident

An event in which any person suffers serious injury or death or in which the aircraft receives substantial damage.

ADF (Automatic Direction Finder)

An instrument in an aircraft that displays the relative bearing to an NDB.

ADIZ (Air Defense Identification Zone)

The airspace over land or water within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

AH (Artificial Horizon)

An instrument that displays pitch and roll information.

AI (Attitude Indicator)

See AH (Artificial Horizon).

Air carrier

A person or company that whose business involves air transportation whether cargo or passengers.

Air taxi

An aircraft operator whose business involves operations for hire or compensation. The aircraft used must have 30 or less passenger seats and a payload capacity no larger than 7,500 pounds.

Airport

An area on land or water where aircraft can takeoff or land. It also includes any buildings and other facilities.

ALS (Approach Light Systems)

Approach light systems provide a visual means of determining the landing threshold. Various types are employed including VASI, REIL, MALS, MALSF, MALSR, SSALS, SSALF, SSALR, ALSF, and ODALS, which can incorporate different colored lights, pulsating lights, or sequenced lights.

ARTCC (Air Route Traffic Control Center)

A facility that provides air traffic control service to aircraft operating on IFR flight plans within controlled airspace – especially during the en route phase of flight.

ASR (Airport Surveillance Radar)

A type of instrument approach that usually provides only horizontal guidance to the pilot.

ATC (Air Traffic Control)

The people in control towers who arrange takeoffs, landings and other aircraft activity through their area.

ATCT (Airport Traffic Control Tower)

A facility that uses air / ground communications, visual signaling and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area.

ATIS (Automatic Terminal Information Service)

A radio frequency associated with an airport and its operation. ATIS provides a continuous loop recording providing local weather and other information regarding airport operations. ATIS frequencies are designated on an aeronautical chart with the other airport data.

CAVU

Acronnym for Ceiling And Visibility Unlimited. Considered perfect flying weather with no major clouds and no major haze. CAVU does not consider wind.

CDI (Course Deviation Indicator)

Part of a VOR navigation system that shows how far off a desired course the aircraft is flying.

Ceiling

The height between the earth's surface and the lowest layer of cloud that is reported as *broken*, *overcast*, or *obscuration* and not classified as *thin* or *partial*.

Class G Airpsace (Uncontrolled Airspace)

The airspace not designated as Class A, B, C, D or E.

Combined Center /RAPCON (CERAP)

A facility that combines the functions of an ARTCC and a radar approach control facility.

Commuter

An air carrier operator that carries passengers on at least five round trips per week on at least one route between two or more points. A commuter operates aircraft that has 30 or fewer passenger seats and a payload capability of no more than 7,500 pounds.

CTAF (Common Traffic Advisory Frequency)

A frequency designed to carry out airport advisory practices while operating to or from an airport without an operating control tower.

Delay

Delays occur when any action is taken by a controller that prevents an aircraft from proceeding normally to its destination for an interval of at least fifteen 15 minutes.

Departures

The number of aircraft takeoffs actually performed by domestic and international aircraft.

ADF (Automatic Direction Finder)

A radio that can automatically determine the direction to an NDB or commercial AM radio station.

DG (Directional Gyro)

A device similar to a compass that uses a gyroscope to provide directional information.

DH (Decision Height)

The point on an ILS glide slope when a pilot must decide whether the minimum requirements to continue the approach are met or whether a missed approach procedure must be executed. Note that DH is given both as altitude and height above ground in parentheses. There are three categories of ILS approaches, each with its own minimum decision

height. The DH for Category I (2400 feet minimum visibility) is shown on Approach Plates and is typically 200 feet.

Displaced Threshold

A location on a runway, identified with painted markings on paved runways, which indicates the point where a landing aircraft clears all obstructions.

DME (Distance Measuring Equipment)

A radio transmitter associated with a VOR or ILS that enables a NAV radio to determine the distance in nautical miles from the VOR. Given the distance and bearing (or radial) from the VOR, a position fix can be established.

Domestic Operations

Flight operations within and between the 50 states of the United States, Washington, DC, Puerto Rico and the United States Virgin Islands and Canadian transborder operations.

FAF (Final Approach Fix)

A point on an instrument approach where final descent for landing begins. It is typically located at the outer marker beacon (if there is one), between four and seven miles from the runway threshold.

FL (Flight Level)

A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is shown in three digits that represent hundreds of feet.

Flare

The point where an aircraft floats above the runway just before touchdown.

Flight Plan

Specified information relating to the intended flight of an aircraft that is filed with an FSS or an ATC facility.

FSS (Flight Service Station)

Air traffic facilities that provide pilot briefing, enroute communications and VFR search and rescue services, assist lost aircraft and aircraft in emergency situations, relay ATC clearances, originate Notices to Airmen, broadcast aviation weather and NAS information, receive and process IFR flight plans, and monitor NAVAIDs. In addition, at selected locations, FSSs provide Enroute Flight Advisory Service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of transborder flights.

GA (General Aviation)

The part of civil aviation that encompasses most aspects of aviation except large aircraft commercial operators.

GPS (Global Position System)

The Global Positioning System consists of a constellation of 24 satellites which transmit a very accurate, high-resolution time signal. A GPS receiver can resolve the signal from three or more satellites to a latitude/longitude position and from five or more satellites to altitude.

GS (Glideslope)

The vertical guidance component of an ILS.

HIRL (High Intensity Runway Lights)

A system of lights for illuminating the outline of a runway during periods of darkness or reduced visibility. Runway lights are classified as low (LIRL), medium (MIRL), or high (HIRL) intensity. Runway edge lights are white except for the final 2000' of instrument approach runways where they are amber. As you approach a runway, the lights that mark the beginning of the runway are green and the lights which mark the end of the runway are red.

Hours Flown

The time from the moment an aircraft leaves the ground until it touches the ground again.

HSI (Horizontal Situation Indicator)

Combines the functions of a VOR and a DGIAC

IFF (Identify Friend or Foe)

See Transponder

IFR (Instrument Flight Rules)

Further training after a pilot's license to let pilots fly in harsher weather. This does not include thunderstorms, etc., but flying in clouds is allowed. This doesn't only refer to flying by instruments alone, but also to understand the Air Traffic Control system.

IFR Aircraft/IFR Flight

An aircraft flying according to instrument flight rules.

ILS (Instrument Landing System)

A system of transmitters and lights which assist in landing an aircraft by providing a three-dimensional representation of the correct heading and glide slope. The complete system consists of a localizer for heading orientation, a glide slope transmitter for establishing the correct descent angle, and outer, middle, and inner maker beacons for determining the distance to the runway.

Incident

An occurrence other than an accident associated with the operation of an aircraft that affects or could affect the safety of operations.

Latitude

Latitude is the angular distance from the equator north or south to the geographic poles. It is measured in degrees north or south from 0-90. Lines of latitude are parallel to each other and are called parallels of latitude. A degree of latitude is equal to 60 nautical miles and a minute of latitude is equal to one nautical mile.

LDA (Landing Distance Available)

The length of a runway beyond a displaced threshold.

LIRL (Low Intensity Runway Lights)

A system of lights for illuminating the outline of a runway during periods of darkness or reduced visibility. Runway lights are classified as low (LIRL), medium (MIRL), or high (HIRL) intensity. Runway edge lights are white except for the final 2000' of instrument approach runways where they are amber. As you approach a runway, the lights that mark the beginning of the runway are green and the lights that mark the end of the runway are red.

LOC (Localizer)

The horizontal guidance component of an ILS

LOM (Locator Outer Marker)

A navigation aid, similar to a NDB, which transmits a non-directional radio signal used to locate the outer marker of an airport runway. It is designated on an aeronautical chart as a magenta donut with a name, an ID, and a frequency. Tune your ADF (Automatic Direction Finder) to the given frequency and it will display the bearing from your position to the transmitter.

Longitude

Longitude is the angular distance east or west of the prime meridian. It is measured in degrees east or west from 0-180. The prime meridian is the great circle that runs approximately through Greenwich, England. A line of longitude is a called a meridian and runs through each geographic pole. Meridians of longitude converge at the poles.

LORAN (Long RANge Navigation)

A navigation system, originally created for marine use, that uses timing differences between multiple low-frequency transmissions to provide accurate latitude/longitude position information, at best to within 50 feet

Magnetic Variation

Compasses point to the north magnetic pole, which differs from the geographic North Pole, or true north. (The lines of longitude on a chart converge at the geographic north and south poles). The angular difference between magnetic north and true north is called magnetic variation or just variation. Variation is not constant in either time or location. Although the magnetic pole moves slowly over time, variation is fixed in the flight simulator database and we do not have to be concerned with annular increase in variation. However, since the magnetic core of the earth is not uniform, the amount of variation is different all over the world. Variation is measured

either east or west depending on whether it causes your compass to point east or west of true north, respectively. Connecting the points on the earth where there is no variation creates a meandering line called an agonic line. The signal transmitted by a VOR is adjusted for variation so that the radial bearing will agree with your compass.

MAP (Missed Approach Point)

The point on an instrument approach where the DH is reached and a decision must be made to either continue the approach or execute a missed approach procedure.

Miles Flown

The miles that are determined in airport-to-airport distances for each flight completed.

NAS (National Airspace Systems)

The common network of US airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and human resources and material. Included are system components shared jointly with the military.

Nautical Mile

A nautical mile is equal to 6076.1 feet or 1852 meters.

NDB (Non-Directional radio Beacon)

A navigation aid that transmits a non-directional radio signal. It is designated on an aeronautical chart as a magenta donut with a name, an ID, and a frequency. Tune your ADF (Automatic Direction Finder) to the given frequency and it will display the bearing from your position to the transmitter.

OBS (Omnibearing Selector)

Part of a VOR receiver system that lets the pilot select a course to or from a VOR station

PAPI (Precision Approach Path Indicator)

PAPI uses lights similar to the VASI, but are installed in a single row of two or four lights. They can be present on either or both sides of the runway. If all the lights are white, you are too high - if all the lights are red, you are too low. If the outer lights are white and the inner lights are red, you are on the correct glide slope.

PAR (Precision Approach Radar)

A ground-radar based instrument approach that provides both horizontal and vertical guidance

Pattern

Also called “circuits” in the UK and Canada. Pilots follow a pattern when they want to land their aircraft (unless ATC instructs differently). The *downwind leg* is parallel to the runway about a half-mile away in the opposite direction they will be landing on. At the end of the downwind leg, you turn 90 degrees to the *base leg* and fly that half-mile so you’re becoming near to being in line with the runway. You turn 90 degrees again, and you should be lined up for the *final leg* or *final approach*. If everything is right, you should be pointed right down the runway and ready to land. The reasons for the pattern is to so pilots can become familiar with airport conditions before landing, to space out traffic that is near the airport and to give safe maneuvering room to lose altitude while keeping the runway and airport traffic in sight.

PIC (Pilot In Command)

The pilot responsible for the operation and safety of an aircraft during flight time.

Positive Control

The separation of all air traffic within designated airspace by air traffic control.

REIL (Runway End Identifier Lights)

A system consisting of a pair synchronized flashing lights located on either side of the runway threshold. They may be either omni-directional or facing the approach area. They are used to assist in distinguishing runways surrounded by other lighting or during reduced visibility.

RMI (Radio Magnetic Indicator)

A display similar to an ADF with two pointers that could be attached to either VOR or ADF receivers.

RNAV (aRea Navigation)

A VOR/DME based system that allows a pilot to fly to an arbitrary point instead of to a point under which a VOR exists

Runway ID

The runway ID gives the approximate runway heading in degrees. Each runway has two associated IDs. For example, a runway that is oriented approximately east-west will have the IDs 9/27 indicating runway headings of 90° and 270°. Two or more runways with the same orientation are distinguished with the letters L, R, or C for Left, Right or Center, respectively.

Runway Incursion

Any occurrence at an airport involving an aircraft or object on the ground (vehicle, person, etc.) that creates collision hazards.

Separation Minimals

The minimum distances (longitudinal, lateral or vertical) by which aircraft are spaced according to air traffic control procedures.

Slip

A method of intentionally losing altitude quickly or slide into a final approach during a heavy wind.

Squawk

The number set by the pilot in the transponder to identify the aircraft to air traffic controllers.

Stall

The point at which wings fail to generate enough lift to keep the plane stable.

Sumps

Points underneath each fuel tank to test for contamination like water or other debris.

TCH (Threshold Crossing Height)

The height above the runway that an aircraft on an ILS glide slope will be as it crosses the threshold or displaced threshold.

Transponder

An airborne transmitter that responds to a ground-based signal to provide air traffic controllers with more accurate and reliable position information. A transponder may also provide the aircraft's altitude to air traffic control.

Turbojet Aircraft

An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

Turboprop Aircraft

An aircraft having a jet engine in which the energy of the jet operates a turbine that drives the propeller.

VASI (Visual Approach Slope Indicator)

VASI is a system of two or three two-color light bars, usually set on the left side of the runway, which indicate the glide slope and the touchdown point. Each light bar consists of hooded red and white lights oriented so that only one of the two colors is visible at a time. If your altitude is such that the light from both bars is red, you are too low. If they are both white, you are too high. If the closer light is white and the farther light is red, you are on the correct glide slope. A two bar system provides only one glide slope, usually 3°. A three bar system provides a second glide slope, normally ¼ degree higher.

VFR (Visual Flight Rules)

Private pilots begin as VFR certified. This generally means that they must have at least three miles of visibility, be 500 feet below clouds, 1000 feet above clouds, and/or 2000 feet next to clouds at a bare minimum. Unless the pilot has an Instrument Rating, they're required to avoid all clouds and weather.

VOR (Very high-frequency Omni-directional Range)

A VOR is a navigation aid that transmits a very high-frequency radio signal. It is designated on an aeronautical chart in blue as a compass rose with a magnetic north indicator, a name, an ID, and a frequency. Tune your NAV radio to the given frequency and adjust the indicator needle to the center

of the dial. The three-digit value on the dial is your bearing either to or from the VOR and is called a radial. Your position is somewhere on this radial. If the VOR transmits a DME (Distance Measuring Equipment) signal, you also know your exact distance from the VOR in nautical miles - in other words, you have a position fix.

VPD (Vehicle / Pedestrian Deviation)

A movement by a vehicle operator or pedestrian that has not been authorized by air traffic control (includes aircraft operated by nonpilots).