

Selected Aviation Terms and Their Meanings

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ABEAM: An aircraft is “abeam” a fix, point, or object when that fix, point, or object is approximately 90 degrees to the right or left of the aircraft track. Abeam indicates a general position rather than a precise point.

ADIZ (Air Defense Identification Zone): The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

- a. Domestic Air Defense Identification Zone. An ADIZ within the U.S. along an international boundary of the U.S.
- b. Coastal Air Defense Identification Zone. An ADIZ over the coastal waters of the U.S.
- c. Distant Early Warning Identification Zone (DEWIZ.) An ADIZ over the coastal waters of the State of Alaska.

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. Commonly used aeronautical charts are:

- a. Sectional Aeronautical Charts (1:500,000) – Designed for visual navigation of slow or medium speed aircraft.
- b. VFR Terminal Area Charts (1:250,000) – Depict Class B airspace which provides for the control or segregation of all the aircraft within Class B airspace.
- c. World Aeronautical Charts (WAC) (1:1,000,000) – Provide a standard series of aeronautical charts covering land areas of the world at a size and scale convenient for navigation by moderate speed aircraft.
- d. En Route Low Altitude Charts – Provide aeronautical information for en route instrument navigation (IFR) in the low altitude stratum.
- e. En Route High Altitude Charts – Provide aeronautical information for en route instrument navigation (IFR) in the high altitude stratum.
- f. Instrument Approach Procedures (IAP) Charts - Portray the aeronautical data which is required to execute an instrument approach to an airport.
- g. Instrument Departure Procedure (DP) Charts – Designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations.
- h. Standard Terminal Arrival (STAR) Charts – Designed to expedite air traffic control arrival procedures and to facilitate transition between en route and instrument approach operations.
- i. Airport Taxi Charts – Designed to expedite the efficient and safe flow of ground traffic at an airport.

A/FD (Airport/Facility Directory): A publication designed primarily as a pilot's operational manual containing all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area.

AIRCRAFT APPROACH CATEGORY: A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration maximum gross landing weight. An aircraft shall fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for a category, the minimums for the next higher category should be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 91 knots,

should use the approach Category B minimums when circling to land. The categories are as follows:

- a. Category A – Speed less than 91 knots.
- b. Category B – Speed 91 knots or more but less than 121 knots.
- c. Category C – Speed 121 knots or more but less than 141 knots.
- d. Category D – Speed 141 knots or more but less than 166 knots.
- e. Category E – Speed 166 knots or more.

AIRCRAFT CLASSES: For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Heavy, Large, and Small as follows:

- a. Heavy – Aircraft capable of takeoff weights of more than 255,000 pounds whether or not they are operation at this weight during a particular phase of flight.
- b. Large – Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to 255,000 pounds.
- c. Small – Aircraft of 41,000 pounds or less maximum certificated takeoff weight.

AIR NAVIGATION FACILITY: Any facility used in, available for use in, or designed for use in, aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio-directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and take-off of aircraft.

AIRPLANE DESIGN GROUP: A grouping of airplanes based on wingspan. The groups are as follows:

- a. Group I: Up to but not including 49-feet
- b. Group II: Greater than 49-feet but less than 79-feet.
- c. Group III: Greater than 79-feet but less than 118-feet
- d. Group IV: Greater than 118-feet but less than 171-feet
- e. Group V: Greater than 171-feet but less than 214-feet
- f. Group VI: Greater than 214-feet but less than 262-feet

AIRPORT ADVISORY AREA: The area within ten miles of an airport without a control tower or where the tower is not in operation, and on which a Flight Service Station is located.

AIRPORT ELEVATION: The highest point of an airport's usable runways measured in feet from mean sea level.

AIRPORT IMPROVEMENT PROGRAM: A federal grant program used to fund airport development on a priority rated system. In order for an airport to receive AIP funding, the airport must have an approved ALP and be included in the NPIAS.

AIRPORT LAYOUT PLAN: The plan of an airport showing the layout of existing and proposed airport facilities.

AIRPORT MARKING AIDS: Markings used on runway and taxiway surfaces to identify a specific runway, a runway threshold, a centerline, a holdline, etc. A runway should be marked in accordance with its present usage such as:

- a. Visual.
- b. Nonprecision instrument.
- c. Precision instrument.

AIRPORT REFERENCE CODE: A coding system for each airport based on the most demanding aircraft. The code is made up of an alpha-numeric designation containing the Aircraft Approach Category and the Airplane Design Group.

AIRPORT REFERENCE POINT (ARP): The approximate geometric center of all usable runway surfaces.

AIRPORT ROTATING BEACON: A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacons flash alternately white and green, but are differentiated from civil beacons by dual peaked (two quick) white flashes between the green flashes.

AIRSPEED: The speed of an aircraft relative to its surrounding air mass. The unqualified term “airspeed” means one of the following:

- a. Indicated Airspeed – The speed shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term “airspeed.”
- b. True Airspeed – The airspeed of an aircraft relative to undisturbed air. Used primarily in flight planning and en route portion of flight. When used in pilot/controller communication, it is referred to as “true airspeed” and not shortened to “airspeed.”

AIR TRAFFIC CONTROL: A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic.

AIRWAY: A Class E airspace area established in the form of a corridor, the centerline of which is defined by radio navigational aids.

ALTIMETER SETTING: The barometric pressure reading used to adjust a pressure altimeter for variations in existing atmospheric pressure or to the standard altimeter setting (29.92.)

ALTITUDE: The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL.)

APPROACH LIGHTING SYSTEM: An approach lighting system is a series of lights aligned with the runway centerline that “extends” the runway surface into the approach. An ALS helps the pilot to identify the runway during low visibility and to correctly establish orientation in relation to the runway centerline.

APPROACH SPEED: The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

APPROACH SURFACE: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the type of approach available or planned for that runway end. The slope of the approach surface can either be 20:1, 34:1 or 50:1,

APRON: A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. With regard to seaplanes, a ramp is used for access to the apron from the water.

AREA NAVIGATION: Area Navigation (RNAV) provides enhanced navigational capability to the pilot. RNAV equipment can compute the airplane position, actual track and ground speed and then provide meaningful information relative to a route of flight selected by the pilot. Typical equipment will provide the pilot with distance, time, bearing and crosstrack error relative to the selected “TO” or “active” waypoint and the selected route. Several distinctly different navigational systems with different navigational performance characteristics are capable of providing area navigational functions. Present day RNAV includes INS, LORAN, VOR/DME, and GPS systems.

AUTOMATED WEATHER OBSERVATION SYSTEM: A system that continuously records, analyzes and disseminates weather information for pilots and air traffic controllers.

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BACK-TAXI: A term used by air traffic controllers to taxi an aircraft on the runway opposite to the traffic flow. The aircraft may be instructed to back-taxi to the beginning of the runway or at some point before reaching the runway end for the purpose of departure or to exit the runway.

BASED AIRCRAFT: An aircraft that is leasing aircraft storage from an airport (i.e., a tie-down or a t-hangar).

BEARING: The horizontal direction to or from any point, usually measured clockwise from true north, magnetic north, or some other reference point through 360 degrees.

BELOW MINIMUMS: Weather conditions below the minimums prescribed by regulation for the particular action involved; e.g., landing minimums, takeoff minimums.

BRAKING ACTION (GOOD, FAIR, POOR, OR NIL): A report of conditions on the airport movement area providing a pilot with a degree/quality of braking that he might expect. Braking action is reported in terms of good, fair, poor, or nil.

BUILDING RESTRICTION LINE (BRL): The building restriction line represents the closest point a building can be to a runway centerline and not be a violation of either FAR Part 77 surfaces, critical areas associated with Navigational Facilities or within the RPZ.

-C-

CEILING: The heights above the earth's surface of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration," and not classified as "thin" or "partial."

CENTER (Air Route Traffic Control Center): A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

CIRCLE-TO-LAND MANEUVER: A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. At tower controlled airports, this maneuver is made only after ATC authorization has been obtained and the pilot has established required visual reference to the airport.

CLIMBOUT: That portion of flight operation between takeoff and the initial cruising altitude.

COMMON TRAFFIC ADVISOR FREQUENCY (CTAF): A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

COMPASS ROSE: A circle, graduated in degrees, printed on some charts or marked on the ground at an airport. It is used as a reference to either true or magnetic direction.

CONICAL SURFACE: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000-feet.

CONTROLLED AIRSPACE: An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

- a. Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.
- b. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in FAR Part 91. For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated.
- c. Controlled airspace in the US is designated as follows
 1. Class A – Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 1 nautical miles of the coast of the 48 contiguous States and Alaska.
 2. Class B – Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements.
 3. Class C – Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements.
 4. Class D – Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower.

5. Class E – Generally, if the airspace is not Class A, B, C, or D, and it is controlled airspace, it is Class E airspace.

COURSE:

- a. The intended direction of flight in the horizontal plane measured in degrees from north.
- b. The ILS localizer signal pattern usually specified as the front course or the back course.
- c. The intended track along a straight, curved, or segmented MLS path.

CROSSWIND:

- a. When used concerning the traffic pattern, the word means “crosswind leg.”
- b. When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

-D-

DECISION ALTITUDE/DECISION HEIGHT: A specified altitude or height (A/H) in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

DIRECT: Straight line flight between two navigational aids, fixes, points, or any combination thereof. When used by pilots in describing off-airway routes, points defining direct route segments become compulsory reporting points unless the aircraft is under radar contact.

DISPLACED THRESHOLD: A threshold that is located at a point on the runway other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT: Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

-F-

FINAL: Commonly used to mean that an aircraft is on the final approach course or is aligned with a landing area.

FINAL APPROACH FIX: The fix from which the final approach (IFR) to an airport is executed and which identifies the beginning of the final approach segment. It is designated on Government charts by the Maltese Cross symbol for nonprecision approaches and the lightning bolt symbol for precision approaches; or when ATC directs a lower-than-published glideslope/path intercept altitude, it is the resultant actual point of the glideslope/path intercept.

FIX: A geographical position determined by visual reference to the surface, by reference to one or more radio NAVAID's, by celestial plotting, or by another navigational device.

FIXED BASED OPERATOR: An aviation related business that caters to based and transient aircraft at an airport. Services offered by a typical FBO include fuel, pilot supplies, flight planning services, maintenance and repair and aircraft storage.

FLIGHT LEVEL: A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level (FL) 250 represents a barometric altimeter indication of 25,000 feet; FL 255, an indication of 25,500 feet.

FLIGHT SERVICE STATION: Air traffic facilities which provide pilot briefing, en route 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 NAVAID's. In addition, at selected locations, FSS's provide En Route Flight Advisory Service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of transborder flights.

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GENERAL AVIATION: That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of public convenience and necessity from the Civil Aeronautics Board and large aircraft commercial operators.

GLIDESLOPE: Provides vertical guidance for aircraft during approach and landing. The glideslope/glidepath is based on the following:

- a. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS/MLS, or
- b. Visual ground aids, such as VASI, which provide vertical guidance for a VFR approach or for the visual portion of an instrument approach and landing.
- c. PAR. Used by ATC to inform an aircraft making a PAR approach of its vertical position (elevation) relative to the descent profile.

GLIDEPATH: A descent profile determined for vertical guidance during a final approach.

GO AROUND: Instructions for a pilot to abandon his approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC.

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HEIGHT ABOVE TOUCHDOWN: The height of the Decision Height or Minimum Descent Altitude above the highest runway elevation in the touchdown zone (first 3,000 feet of the runway). HAT is published on instrument approach charts in conjunction with all straight-in minimums.

HORIZONTAL SURFACE: A horizontal plane 150-feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radii can either be 5,000-feet or 10,000-feet.

HOVER TAXI: Used to describe a helicopter/VTOL aircraft movement conducted above the surface and in ground effect at airspeeds less than approximately 20 knots. The actual height may vary, and some helicopters may require hover taxi above 25 feet AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.



INSTRUMENT APPROACH PROCEDURE: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority.

INSTRUMENT METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions.

INSTRUMENT RUNWAY: A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in landing minimums has been approved.

INTERSECTION:

- a. A point defined by any combination of courses, radials, or bearings of two or more navigational aids.
- b. Used to describe the point where two runways, a runway and a taxiway, or two taxiways cross or meet.

-J-

JET BLAST: Jet engine exhaust (thrust stream turbulence.)

JET ROUTE: A route designed to serve aircraft operations from 18,000 feet MSL up to and including flight level 450. The routes are referred to as "J" routes with numbering to identify the designated route; e.g., J105.

-L-

LANDING AREA: Any locality either on land, water, or structures, including airports/heliports and intermediate landing fields, which is used, or intended to be used, for the landing and takeoff of aircraft whether or not facilities are provided for the shelter, servicing, or for receiving or discharging passengers or cargo.

LANDING MINIMUMS: The minimum visibility prescribed for landing a civil aircraft while using an instrument approach procedure. The minimum applies with other limitations set forth in FAR Part 91 with respect to the Minimum Descent Altitude (MDA) or Decision Height (DH) prescribed in the instrument approach procedures as follows:

- a. Straight-in landing minimums. A statement of MDA and visibility, or DH and visibility, required for a straight-in landing on a specified runway, or
- b. Circling minimums. A statement of MDA and visibility required for the circle-to-land maneuver.

LARGE AIRPLANE: An airplane of more than 12,500 pounds maximum certified takeoff weight

LOCALIZER: The component of an ILS which provides course guidance to the runway.

LOCAL TRAFFIC: Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

-M-

MARKER BEACON: An electronic navigation facility transmitting a 75mHz vertical fan or boneshaped radiation pattern. Marker beacons are identified by their modulation frequency and keying code, and when received by compatible airborne equipment, indicate to the pilot, both aurally and visually, that he is passing over the facility.

MILITARY TRAINING ROUTES: Airspace of defined vertical and lateral dimensions established for the conduct of military flight training at airspeeds in excess of 250 knots IAS.

MINIMUM CROSSING ALTITUDE: The lowest altitude at certain fixes at which an aircraft must cross when proceeding in the direction of a higher minimum en route IFR altitude (MEA).

MINIMUMS: Weather condition requirements established for a particular operation or type of operation; e.g., IFR takeoff or landing, alternate airport for IFR flight plans, VFR flight, etc.

MISSED APPROACH:

- a. A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. The route of flight and altitude are shown on instrument approach procedure charts. A pilot executing a missed approach prior to the Missed Approach Point (MAP) must continue along the final approach to the MAP. The pilot may climb immediately to the altitude specified in the missed approach procedure.
- b. A term used by the pilot to inform ATC that he is executing the missed approach.
- c. At locations where ATC radar service is provided, the pilot should conform to radar vectors when provided by ATC in lieu of the published missed approach procedure.

MOVEMENT AREA: The runways, taxiways, and other areas of an airport/heliport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

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NATIONAL AIRSPACE SYSTEM: The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

NAVIGATIONAL AID: Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

NONPRECISION APPROACH PROCEDURE: A standard instrument approach procedure in which no electronic glideslope is provided; e.g., VOR, TAAN, NDB, LOC, ASR, LDA, or SDF approaches.

NOTICE TO AIRMEN (NOTAM): A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

-O-

OBJECT: Includes, but is not limited to above ground structures, NAVAIDs, people, equipment, vehicles, natural growth, terrain and parked aircraft.

OBJECT FREE AREA: An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

OBSTACLE: An existing object, object of natural growth, or terrain at a fixed geographical location or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.

OBSTACLE FREE ZONE: The OFZ is a three dimensional volume of airspace which protects for the transition of aircraft to and from the runway. The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAID locations that are fixed by function. Additionally, vehicles, equipment, and personnel may be authorized by air traffic control to enter the area using the provisions of FAAO 7110.65, Para 3-1-5, VEHICLES/EQUIPMENT/PERSONNEL ON RUNWAYS. The runway OFZ and when applicable, the inner-approach OFZ, and the inner-transitional OFZ, comprise the OFZ.

- a. Runway OFZ. The runway OFZ is a defined volume of airspace centered above the runway. The runway OFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway. The width is as follows:
 1. For runways serving large airplanes, the greater of :
 - (a) 400 feet, or
 - (b) 180 feet, plus the wingspan of the most demanding airplane, plus 20 feet per 1,000 feet of airport elevation.
 2. For runways serving only small airplanes:
 - (a) 300 feet for precision instrument runways.
 - (b) 250 feet for other runways serving small airplanes with approach speeds of 50 knots, or more.
 - (c) 120 feet for other runways serving small airplanes with approach speeds of less than 50 knots.
- b. Inner approach OFZ. The inner-approach OFZ is a defined volume of airspace centered on the approach area. The inner-approach OFZ applies only to runways with an approach lighting system. The inner-approach OFZ begins 200 feet from the runway threshold at the same elevation as the runway threshold and extends 200 feet beyond the 1st light unit in the approach lighting system. The width of the inner-approach OFZ is the same as the runway OFZ and rises at a slope of 50 (horizontal) to 1 (vertical) from the beginning.
- c. Inner-transitional OFZ. The inner-transitional surface OFZ is a defined volume of airspace along the sides of the runway and inner-approach OFZ and applies only to precision instrument runways. The inner-transitional surface OFZ slopes 3 (horizontal) to 1 (vertical) out from the edges of the runway OFZ and inner-approach OFZ to a height of 150 feet above the established airport elevation.

OBSTRUCTION: Any object/obstacle exceeding the obstruction standards specified by FAR Part 77, Subpart C.

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PART 77: A federally defined Aviation Regulation that defines objects affecting navigable airspace, sets forth the requirements for notice to the Administrator of certain proposed construction or alteration, provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace; provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and provides for establishing antenna farm areas.

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

PRECISION APPROACH PROCEDURE: A standard instrument approach procedure in which an electronic glideslope/glidepath is provided; e.g., ILS/MLS and PAR.

PRECISION APPROACH CATEGORY I: A runway with an instrument approach procedure (IAP) which provides for approaches to a decision height of not less than 200-feet and visibility of not less than ½ mile or runway visual range 2400.

PRIMARY SURFACE: A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway: but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface can either be 250-feet, 500-feet or 1,000-feet.

-R-

ROUTE: A defined path, consisting of one or more courses in a horizontal plane, which aircraft traverse over the surface of the earth.

RUNWAY: A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees; e.g., Runway 1, Runway 25.

RUNWAY GRADIENT: The average slope, measured in percent, between two ends or points on a runway. Runway gradient is depicted on Government aerodrome sketches when total runway gradient exceeds 0.3%.

RUNWAY HEADING: The magnetic direction that corresponds with the runway centerline extended, not the painted runway number. When cleared to “fly or maintain runway heading,” pilots are expected to fly or maintain the heading that corresponds with the extended centerline of the departure runway. Drift correction shall not be applied; e.g., Runway 4, actual magnetic heading of the runway centerline 044, fly 044.

RUNWAY OBJECT FREE AREA: see *object free area*.

RUNWAY PROTECTION ZONE: An area off the runway end to enhance the protection of people and property on the ground.

RUNWAY SAFETY AREA: A defined surface surrounding the runway prepared, or suitable, for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The dimensions of the RSA vary and can be determined by using the criteria contained within AC 150/5300-13, airport Design, Chapter 3. Figure 3-1 in AC 150/5300-13 depicts the RSA. The design standards dictate that the RSA shall be:

- a. Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations.
- b. Drained by grading or storm sewers to prevent water accumulation.
- c. Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and,
- d. Free of objects, except for objects that need to be located in the runway safety area because of their function. These objects shall be constructed on low impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than 3 inches above grade.

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SPECIAL USE AIRSPACE: Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of special use airspace are:

- a. Alert Area – Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.
- b. Controlled Firing Area – airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground.
- c. Military Operations Area (MOA) – A MOA is airspace established outside of Class A airspace area to separate or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.
- d. Prohibited Area – airspace designated under Part 73 within which no person may operate an aircraft without the permission of the using agency.
- e. Restricted Area – Airspace designated under FAR Part 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency.
- f. Warning area – A warning area is airspace of defined dimensions extending from 3 nautical miles outward from the coast of the U.S., that contains activity that may be hazardous to nonparticipating aircraft. A warning area may be located over domestic or international waters or both.

STOPWAY: An area beyond the takeoff runway no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

-T-

T-HANGAR: A t-hangar is a grouping of hangars in a rectangular shaped building. The t-hangar derives the name for the shape that the hangar within the rectangular building. Typical t-hangars have door widths of 45-feet.

TIE DOWN: A tie-down is a means of storing an aircraft out on an apron and consists of three metal rings within the pavement of the apron. An aircraft operator secures their aircraft to these rings with heavy gauge rope.

TOUCHDOWN ZONE: The first 3,000 feet of the runway beginning at the threshold. The area is used for determination of Touchdown Zone Elevation in the development of straight-in landing minimums for instrument approaches.

TOWER: A terminal 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. Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or nonradar).

TRANSITIONAL SURFACE: These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface extend a distance of 5,000-feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

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 which drives the propeller.

-V-

VECTOR: A heading issued to an aircraft to provide navigational guidance by radar.

VFR CONDITIONS: Weather conditions equal to or better than the minimum for flight under visual flight rules. The term may be used as an ATC clearance/instruction only when:

- a. An IFR aircraft requests a climb/descent in VFR conditions.
- b. The clearance will result in noise abatement benefits where part of the IFR departure route does not conform to an FAA approved noise abatement route or altitude.
- c. A pilot has requested a practice instrument approach and is not on an IFR flight plan.

VISIBILITY: The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet or meters.

VISUAL APPROACH: An approach conducted on an instrument flight rules (IFR) flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport. The pilot must, at all times, have either the airport or the preceding aircraft in sight. This approach must be authorized and under the control of the appropriate air traffic control facility. Reported weather at the airport must be ceiling at or above 1,000 feet and visibility of 3 miles or greater.

VISUAL FIGHT RULES: Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the U.S. to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

VISUAL METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of visibility distance from cloud, and ceiling equal to or better than specified minima.

-W-

WAYPOINT: A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

WIDE-AREA AUGMENTATION SYSTEM (WAAS): The WAAS is a satellite navigation system consisting of the equipment and software which augments the GPS Standard Positioning Service (SPS). The WAAS provided enhanced integrity, accuracy, availability, and continuity over and above GPS SPS. The differential correction function provides improved accuracy required for precision approach.