

# PILOT/CONTROLLER GLOSSARY

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## PURPOSE

a. This Glossary was compiled to promote a common understanding of the terms used in the Air Traffic Control system. It includes those terms which are intended for pilot/controller communications. Those terms most frequently used in pilot/controller communications are printed in *bold italics*. The definitions are primarily defined in an operational sense applicable to both users and operators of the National Airspace System. Use of the Glossary will preclude any misunderstandings concerning the system's design, function, and purpose.

b. Because of the international nature of flying, terms used in the Lexicon, published by the International Civil Aviation Organization (ICAO), are included when they differ from FAA definitions. These terms are followed by "[ICAO]." For the reader's convenience, there are also cross references to related terms in other parts of the Glossary and to other documents, such as the Code of Federal Regulations (CFR) and the Aeronautical Information Manual (AIM).

c. This Glossary will be revised, as necessary, to maintain a common understanding of the system.

## EXPLANATION OF CHANGES

d. Terms Added:

ESTABLISHED ON RNP(EoR) CONCEPT  
QFE

e. Terms Deleted

COMPOSITE ROUTE SYSTEM  
COMPOSITE SEPARATION  
NONCOMPOSITE SEPARATION

f. Terms Modified:

MOUNTAIN WAVE

g. Editorial/format changes were made where necessary. Revision bars were not used due to the insignificant nature of the changes.



## PAGE CONTROL CHART

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**COMMON POINT**– A significant point over which two or more aircraft will report passing or have reported passing before proceeding on the same or diverging tracks. To establish/maintain longitudinal separation, a controller may determine a common point not originally in the aircraft’s flight plan and then clear the aircraft to fly over the point.

(See **SIGNIFICANT POINT**.)

**COMMON PORTION**–

(See **COMMON ROUTE**.)

**COMMON ROUTE**– That segment of a North American Route between the inland navigation facility and the coastal fix.

## OR

**COMMON ROUTE**– Typically the portion of a RNAV STAR between the en route transition end point and the runway transition start point; however, the common route may only consist of a single point that joins the en route and runway transitions.

**COMMON TRAFFIC ADVISORY 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.

(See **DESIGNATED COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) AREA**.)

(Refer to AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.)

**COMPASS LOCATOR**– A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in the approach procedure.

**a. Outer Compass Locator (LOM)**– A compass locator installed at the site of the outer marker of an instrument landing system.

(See **OUTER MARKER**.)

**b. Middle Compass Locator (LMM)**– A compass locator installed at the site of the middle marker of an instrument landing system.

(See **MIDDLE MARKER**.)

(See ICAO term **LOCATOR**.)

**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.

**COMPLY WITH RESTRICTIONS**– An ATC instruction that requires an aircraft being vectored back onto an arrival or departure procedure to comply with all altitude and/or speed restrictions depicted on the procedure. This term may be used in lieu of repeating each remaining restriction that appears on the procedure.

**COMPOSITE FLIGHT PLAN**– A flight plan which specifies VFR operation for one portion of flight and IFR for another portion. It is used primarily in military operations.

(Refer to **AIM**.)

**COMPULSORY REPORTING POINTS**– Reporting points which must be reported to ATC. They are designated on aeronautical charts by solid triangles or filed in a flight plan as fixes selected to define direct routes. These points are geographical locations which are defined by navigation aids/fixes. Pilots should discontinue position reporting over compulsory reporting points when informed by ATC that their aircraft is in “radar contact.”

**CONDITIONS NOT MONITORED**– When an airport operator cannot monitor the condition of the movement area or airfield surface area, this information is issued as a NOTAM. Usually necessitated due to staffing, operating hours or other mitigating factors associated with airport operations.

**CONFIDENCE MANEUVER**– A confidence maneuver consists of one or more turns, a climb or descent, or other maneuver to determine if the pilot in command (PIC) is able to receive and comply with ATC instructions.

**CONFLICT ALERT**– A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between tracked targets (known IFR or VFR aircraft) that require his/her immediate attention/action.

(See **MODE C INTRUDER ALERT**.)

**CONFLICT RESOLUTION**– The resolution of potential conflicts between aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied.

Note: This procedure shall not be provided utilizing mosaic radar systems.

**CONFORMANCE**– The condition established when an aircraft’s actual position is within the conformance region constructed around that aircraft at its position, according to the trajectory associated with the aircraft’s Current Plan.

**CONFORMANCE REGION**– A volume, bounded laterally, vertically, and longitudinally, within which an aircraft must be at a given time in order to be in conformance with the Current Plan Trajectory for that aircraft. At a given time, the conformance region is determined by the simultaneous application of the lateral, vertical, and longitudinal conformance bounds for the aircraft at the position defined by time and aircraft’s trajectory.

**CONSOLAN**– A low frequency, long-distance NAVAID used principally for transoceanic navigations.

**CONTACT**–

**a.** Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).

**b.** A flight condition wherein the pilot ascertains the attitude of his/her aircraft and navigates by visual reference to the surface.

(See CONTACT APPROACH.)

(See RADAR CONTACT.)

**CONTACT APPROACH**– An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

(Refer to AIM.)

**CONTAMINATED RUNWAY**– A runway is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber, or other substances are present. A runway is contaminated with respect to rubber deposits or other friction-degrading substances when the average friction value for any 500-foot segment of the runway within the ALD fails below the recommended minimum friction level and the average friction value

in the adjacent 500-foot segments falls below the maintenance planning friction level.

**CONTERMINOUS U.S.**– The 48 adjoining States and the District of Columbia.

**CONTINENTAL UNITED STATES**– The 49 States located on the continent of North America and the District of Columbia.

**CONTINUE**– When used as a control instruction should be followed by another word or words clarifying what is expected of the pilot. Example: “continue taxi,” “continue descent,” “continue inbound,” etc.

**CONTROL AREA [ICAO]**– A controlled airspace extending upwards from a specified limit above the earth.

**CONTROL SECTOR**– An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and controller workload. Pilot communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector.

(See DISCRETE FREQUENCY.)

**CONTROL SLASH**– A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

**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 14 CFR Part 91 (for specific operating requirements, please refer to 14 CFR 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 (for specific designations and descriptions of the airspace classes, please refer to 14 CFR Part 71).

c. Controlled airspace in the United States 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 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

**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. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspace areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is “clear of clouds.”

**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. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, a circle with a 10NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation, and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

(See OUTER AREA.)

**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. The configuration

of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

**5. CLASS E**– Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

**CONTROLLED AIRSPACE [ICAO]**– 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.

Note: Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.

**CONTROLLED TIME OF ARRIVAL**– Arrival time assigned during a Traffic Management Program. This time may be modified due to adjustments or user options.

**CONTROLLER**–

(See AIR TRAFFIC CONTROL SPECIALIST.)

**CONTROLLER [ICAO]**– A person authorized to provide air traffic control services.

**CONTROLLER PILOT DATA LINK COMMUNICATIONS (CPDLC)**– A two-way digital communications system that conveys textual air traffic control messages between controllers and

pilots using ground or satellite-based radio relay stations.

**CONVECTIVE SIGMET**– A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of  $\frac{4}{10}$  (40%) or more, and hail  $\frac{3}{4}$  inch or greater.

(See AIRMET.)

(See AWW.)

(See CWA.)

(See SIGMET.)

(Refer to AIM.)

**CONVECTIVE SIGNIFICANT METEOROLOGICAL INFORMATION**–

(See CONVECTIVE SIGMET.)

**COORDINATES**– The intersection of lines of reference, usually expressed in degrees/minutes/seconds of latitude and longitude, used to determine position or location.

**COORDINATION FIX**– The fix in relation to which facilities will handoff, transfer control of an aircraft, or coordinate flight progress data. For terminal facilities, it may also serve as a clearance for arriving aircraft.

**COPTER**–

(See HELICOPTER.)

**CORRECTION**– An error has been made in the transmission and the correct version follows.

**COUPLED APPROACH**– An instrument approach performed by the aircraft autopilot, and/or visually depicted on the flight director, which is receiving position information and/or steering commands from onboard navigational equipment. In general, coupled non-precision approaches must be flown manually (autopilot disengaged) at altitudes lower than 50 feet AGL below the minimum descent altitude, and coupled precision approaches must be flown manually (autopilot disengaged) below 50 feet AGL unless authorized to conduct autoland operations. Coupled instrument approaches are commonly flown to the allowable IFR weather minima established by the operator or PIC, or flown VFR for training and safety.

**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.

(See BEARING.)

(See INSTRUMENT LANDING SYSTEM.)

(See RADIAL.)

**CPDLC**–

(See CONTROLLER PILOT DATA LINK COMMUNICATIONS.)

**CPL [ICAO]**–

(See ICAO term CURRENT FLIGHT PLAN.)

**CRITICAL ENGINE**– The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

**CROSS (FIX) AT (ALTITUDE)**– Used by ATC when a specific altitude restriction at a specified fix is required.

**CROSS (FIX) AT OR ABOVE (ALTITUDE)**– Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

(See ALTITUDE RESTRICTION.)

(Refer to AIM.)

**CROSS (FIX) AT OR BELOW (ALTITUDE)**– Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

(See ALTITUDE RESTRICTION.)

(See MINIMUM IFR ALTITUDES.)

(Refer to 14 CFR Part 91.)

**CROSSWIND**–

**a.** When used concerning the traffic pattern, the word means “crosswind leg.”

(See TRAFFIC PATTERN.)

**b.** When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

(See CROSSWIND COMPONENT.)

**CROSSWIND COMPONENT**– The wind component measured in knots at 90 degrees to the longitudinal axis of the runway.



**CRUISE**– Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he/she may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

**a.** An airport clearance limit at locations with a standard/special instrument approach procedure. The CFRs require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or

**b.** An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in Class G airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable CFRs governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed.

(See INSTRUMENT APPROACH PROCEDURE.)

**CRUISE CLIMB**– A climb technique employed by aircraft, usually at a constant power setting, resulting in an increase of altitude as the aircraft weight decreases.

**CRUISING ALTITUDE**– An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.

(See ALTITUDE.)

(See ICAO term CRUISING LEVEL.)

**CRUISING LEVEL**–

(See CRUISING ALTITUDE.)

**CRUISING LEVEL [ICAO]**– A level maintained during a significant portion of a flight.

**CT MESSAGE**– An EDCT time generated by the ATCSCC to regulate traffic at arrival airports. Normally, a CT message is automatically transferred from the traffic management system computer to the NAS en route computer and appears as an EDCT. In the event of a communication failure between the traffic management system computer and the NAS, the CT message can be manually entered by the TMC at the en route facility.

**CTA**–

(See CONTROLLED TIME OF ARRIVAL.)

(See ICAO term CONTROL AREA.)

**CTAF**–

(See COMMON TRAFFIC ADVISORY FREQUENCY.)

**CTAS**–

(See CENTER TRACON AUTOMATION SYSTEM.)

**CTOP**–

(See COLLABORATIVE TRAJECTORY OPTIONS PROGRAM)

**CTRD**–

(See CERTIFIED TOWER RADAR DISPLAY.)

**CURRENT FLIGHT PLAN [ICAO]**– The flight plan, including changes, if any, brought about by subsequent clearances.

**CURRENT PLAN**– The ATC clearance the aircraft has received and is expected to fly.

**CVFP APPROACH**–

(See CHARTED VISUAL FLIGHT PROCEDURE APPROACH.)

**CWA**–

(See CENTER WEATHER ADVISORY and WEATHER ADVISORY.)



# E

## EAS–

(See EN ROUTE AUTOMATION SYSTEM.)

## EDCT–

(See EXPECT DEPARTURE CLEARANCE TIME.)

## EDST–

(See EN ROUTE DECISION SUPPORT TOOL)

## EFC–

(See EXPECT FURTHER CLEARANCE (TIME).)

## ELT–

(See EMERGENCY LOCATOR TRANSMITTER.)

**EMERGENCY**– A distress or an urgency condition.

**EMERGENCY LOCATOR TRANSMITTER (ELT)**– A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

(Refer to 14 CFR Part 91.)

(Refer to AIM.)

## E-MSAW–

(See EN ROUTE MINIMUM SAFE ALTITUDE WARNING.)

## ENHANCED FLIGHT VISION SYSTEM (EFVS)–

An EFVS is an installed aircraft system which uses an electronic means to provide a display of the forward external scene topography (the natural or man-made features of a place or region especially in a way to show their relative positions and elevation) through the use of imaging sensors, including but not limited to forward-looking infrared, millimeter wave radiometry, millimeter wave radar, or low-light level image intensification. An EFVS includes the display element, sensors, computers and power supplies, indications, and controls. An operator's authorization to conduct an EFVS operation may have provisions which allow pilots to conduct IAPs when the reported weather is below minimums prescribed on the IAP to be flown.

**EN ROUTE AIR TRAFFIC CONTROL SERVICES**– Air traffic control service provided aircraft on IFR flight plans, generally by centers, when these

aircraft are operating between departure and destination terminal areas. When equipment, capabilities, and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(Refer to AIM.)

**EN ROUTE AUTOMATION SYSTEM (EAS)**– The complex integrated environment consisting of situation display systems, surveillance systems and flight data processing, remote devices, decision support tools, and the related communications equipment that form the heart of the automated IFR air traffic control system. It interfaces with automated terminal systems and is used in the control of en route IFR aircraft.

(Refer to AIM.)

## EN ROUTE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE DECISION SUPPORT TOOL (EDST)–

An automated tool provided at each Radar Associate position in selected En Route facilities. This tool utilizes flight and radar data to determine present and future trajectories for all active and proposal aircraft and provides enhanced automated flight data management.

**EN ROUTE DESCENT**– Descent from the en route cruising altitude which takes place along the route of flight.

## EN ROUTE HIGH ALTITUDE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE LOW ALTITUDE CHARTS–

(See AERONAUTICAL CHART.)

## EN ROUTE MINIMUM SAFE ALTITUDE WARN-

**ING (E-MSAW)**– A function of the EAS that aids the controller by providing an alert when a tracked aircraft is below or predicted by the computer to go below a predetermined minimum IFR altitude (MIA).

**EN ROUTE SPACING PROGRAM (ESP)**– A program designed to assist the exit sector in achieving the required in-trail spacing.

**EN ROUTE TRANSITION–**

**a.** Conventional STARs/SIDs. The portion of a SID/STAR that connects to one or more en route airway/jet route.

**b.** RNAV STARs/SIDs. The portion of a STAR preceding the common route or point, or for a SID the portion following, that is coded for a specific en route fix, airway or jet route.

**ESP–**

(See EN ROUTE SPACING PROGRAM.)

**EST–**

(See ESTIMATED.)

**ESTABLISHED–** To be stable or fixed at an altitude or on a course, route, route segment, heading, instrument approach or departure procedure, etc.

**ESTABLISHED ON RNP (EoR) CONCEPT–** A system of authorized instrument approaches, ATC procedures, surveillance, and communication requirements that allow aircraft operations to be safely conducted with approved reduced separation criteria once aircraft are established on a PBN segment of a published instrument flight procedure.

**ESTIMATED (EST)–**When used in NOTAMs “EST” is a contraction that is used by the issuing authority only when the condition is expected to return to service prior to the expiration time. Using “EST” lets the user know that this NOTAM has the possibility of returning to service earlier than the expiration time. Any NOTAM which includes an “EST” will be auto-expired at the designated expiration time.

**ESTIMATED ELAPSED TIME [ICAO]–** The estimated time required to proceed from one significant point to another.

(See ICAO Term TOTAL ESTIMATED ELAPSED TIME.)

**ESTIMATED OFF-BLOCK TIME [ICAO]–** The estimated time at which the aircraft will commence movement associated with departure.

**ESTIMATED POSITION ERROR (EPE)–**

(See Required Navigation Performance)

**ESTIMATED TIME OF ARRIVAL–** The time the flight is estimated to arrive at the gate (scheduled operators) or the actual runway on times for nonscheduled operators.

**ESTIMATED TIME EN ROUTE–** The estimated flying time from departure point to destination (lift-off to touchdown).

**ETA–**

(See ESTIMATED TIME OF ARRIVAL.)

**ETE–**

(See ESTIMATED TIME EN ROUTE.)

**EXECUTE MISSED APPROACH–** Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to “execute missed approach.”

(Refer to AIM.)

**EXPECT (ALTITUDE) AT (TIME) or (FIX)–** Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning.

(Refer to AIM.)

**EXPECT DEPARTURE CLEARANCE TIME (EDCT)–** The runway release time assigned to an aircraft in a traffic management program and shown on the flight progress strip as an EDCT.

(See GROUND DELAY PROGRAM.)

**EXPECT FURTHER CLEARANCE (TIME)–** The time a pilot can expect to receive clearance beyond a clearance limit.

**EXPECT FURTHER CLEARANCE VIA (AIRWAYS, ROUTES OR FIXES)–** Used to inform a pilot of the routing he/she can expect if any part of the route beyond a short range clearance limit differs from that filed.

**EXPEDITE–** Used by ATC when prompt compliance is required to avoid the development of an imminent situation. Expedite climb/descent normally indicates to a pilot that the approximate best rate of climb/descent should be used without requiring an exceptional change in aircraft handling characteristics.

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.

**b.** A term used by the pilot to inform ATC that he/she 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.

(See MISSED APPROACH POINT.)

(Refer to AIM.)

**MISSED APPROACH POINT (MAP)**– A point prescribed in each instrument approach procedure at which a missed approach procedure shall be executed if the required visual reference does not exist.

(See MISSED APPROACH.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

**MISSED APPROACH PROCEDURE [ICAO]**– The procedure to be followed if the approach cannot be continued.

**MISSED APPROACH SEGMENT**–

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

**MLDI**–

(See METER LIST DISPLAY INTERVAL.)

**MM**–

(See MIDDLE MARKER.)

**MOA**–

(See MILITARY OPERATIONS AREA.)

**MOCA**–

(See MINIMUM OBSTRUCTION CLEARANCE ALTITUDE.)

**MODE**– The letter or number assigned to a specific pulse spacing of radio signals transmitted or received by ground interrogator or airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and

Mode C (altitude reporting) are used in air traffic control.

(See INTERROGATOR.)

(See RADAR.)

(See TRANSPONDER.)

(See ICAO term MODE.)

(Refer to AIM.)

**MODE (SSR MODE) [ICAO]**– The letter or number assigned to a specific pulse spacing of the interrogation signals transmitted by an interrogator. There are 4 modes, A, B, C and D specified in Annex 10, corresponding to four different interrogation pulse spacings.

**MODE C INTRUDER ALERT**– A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between a tracked target (known IFR or VFR aircraft) and an untracked target (unknown IFR or VFR aircraft) that requires immediate attention/action.

(See CONFLICT ALERT.)

**MODEL AIRCRAFT**– An unmanned aircraft that is: (1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes.

**MONITOR**– (When used with communication transfer) listen on a specific frequency and stand by for instructions. Under normal circumstances do not establish communications.

**MONITOR ALERT (MA)**– A function of the TFMS that provides traffic management personnel with a tool for predicting potential capacity problems in individual operational sectors. The MA is an indication that traffic management personnel need to analyze a particular sector for actual activity and to determine the required action(s), if any, needed to control the demand.

**MONITOR ALERT PARAMETER (MAP)**– The number designated for use in monitor alert processing by the TFMS. The MAP is designated for each operational sector for increments of 15 minutes.

**MOSAIC/MULTI-SENSOR MODE**– Accepts positional data from multiple radar or ADS-B sites. Targets are displayed from a single source within a radar sort box according to the hierarchy of the sources assigned.

**MOUNTAIN WAVE**– Mountain waves occur when air is being blown over a mountain range or even the

ridge of a sharp bluff area. As the air hits the upwind side of the range, it starts to climb, thus creating what is generally a smooth updraft which turns into a turbulent downdraft as the air passes the crest of the ridge. Mountain waves can cause significant fluctuations in airspeed and altitude with or without associated turbulence.

(Refer to AIM.)

**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.

(See ICAO term MOVEMENT AREA.)

**MOVEMENT AREA [ICAO]**– That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).

**MOVING TARGET INDICATOR**– An electronic device which will permit radar scope presentation only from targets which are in motion. A partial remedy for ground clutter.

**MRA**–

(See MINIMUM RECEPTION ALTITUDE.)

**MSA**–

(See MINIMUM SAFE ALTITUDE.)

**MSAW**–

(See MINIMUM SAFE ALTITUDE WARNING.)

**MTI**–

(See MOVING TARGET INDICATOR.)

**MTR**–

(See MILITARY TRAINING ROUTES.)

**MULTICOM**– A mobile service not open to public correspondence used to provide communications essential to conduct the activities being performed by or directed from private aircraft.

**MULTIPLE RUNWAYS**– The utilization of a dedicated arrival runway(s) for departures and a dedicated departure runway(s) for arrivals when feasible to reduce delays and enhance capacity.

**MVA**–

(See MINIMUM VECTORING ALTITUDE.)

# N

## NAS–

(See NATIONAL AIRSPACE SYSTEM.)

## NAT HLA–

(See NORTH ATLANTIC HIGH LEVEL AIRSPACE.)

**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.

**NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE (NBCAP)–** Airspace over United States territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to about boundaries of oceanic control areas (CTA)/Flight Information Regions (FIR).

(See FLIGHT INFORMATION REGION.)

**NATIONAL FLIGHT DATA CENTER (NFDC)–** A facility in Washington D.C., established by FAA to operate a central aeronautical information service for the collection, validation, and dissemination of aeronautical data in support of the activities of government, industry, and the aviation community. The information is published in the National Flight Data Digest.

(See NATIONAL FLIGHT DATA DIGEST.)

**NATIONAL FLIGHT DATA DIGEST (NFDD)–** A daily (except weekends and Federal holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Airmen, or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

**NATIONAL SEARCH AND RESCUE PLAN–** An interagency agreement which provides for the effective utilization of all available facilities in all types of search and rescue missions.

## NAVAID–

(See NAVIGATIONAL AID.)

**NAVAID CLASSES–** VOR, VORTAC, and TACAN aids are classed according to their operational use. The three classes of NAVAIDs are:

- a. T– Terminal.
- b. L– Low altitude.
- c. H– High altitude.

**Note:** The normal service range for T, L, and H class aids is found in the AIM. Certain operational requirements make it necessary to use some of these aids at greater service ranges than specified. Extended range is made possible through flight inspection determinations. Some aids also have lesser service range due to location, terrain, frequency protection, etc. Restrictions to service range are listed in Chart Supplement U.S.

**NAVIGABLE AIRSPACE–** Airspace at and above the minimum flight altitudes prescribed in the CFRs including airspace needed for safe takeoff and landing.

(Refer to 14 CFR Part 91.)

**NAVIGATION REFERENCE SYSTEM (NRS)–** The NRS is a system of waypoints developed for use within the United States for flight planning and navigation without reference to ground based navigational aids. The NRS waypoints are located in a grid pattern along defined latitude and longitude lines. The initial use of the NRS will be in the high altitude environment in conjunction with the High Altitude Redesign initiative. The NRS waypoints are intended for use by aircraft capable of point-to-point navigation.

**NAVIGATION SPECIFICATION [ICAO]–** A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

a. **RNP specification.** A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP; e.g., RNP 4, RNP APCH.

b. **RNAV specification.** A navigation specification based on area navigation that does not include the requirement for performance monitoring and alert-

ing, designated by the prefix RNAV; e.g., RNAV 5, RNAV 1.

Note: The Performance-based Navigation Manual (Doc 9613), Volume II contains detailed guidance on navigation specifications.

**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.

(See AIR NAVIGATION FACILITY.)

**NBCAP AIRSPACE**–

(See NATIONAL BEACON CODE ALLOCATION PLAN AIRSPACE.)

**NDB**–

(See NONDIRECTIONAL BEACON.)

**NEGATIVE**– “No,” or “permission not granted,” or “that is not correct.”

**NEGATIVE CONTACT**– Used by pilots to inform ATC that:

a. Previously issued traffic is not in sight. It may be followed by the pilot’s request for the controller to provide assistance in avoiding the traffic.

b. They were unable to contact ATC on a particular frequency.

**NFDC**–

(See NATIONAL FLIGHT DATA CENTER.)

**NFDD**–

(See NATIONAL FLIGHT DATA DIGEST.)

**NIGHT**– The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the Air Almanac, converted to local time.

(See ICAO term NIGHT.)

**NIGHT [ICAO]**– The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority.

Note: Civil twilight ends in the evening when the center of the sun’s disk is 6 degrees below the horizon and begins in the morning when the center of the sun’s disk is 6 degrees below the horizon.

**NO GYRO APPROACH**– A radar approach/vector provided in case of a malfunctioning gyro-compass or directional gyro. Instead of providing the pilot

with headings to be flown, the controller observes the radar track and issues control instructions “turn right/left” or “stop turn” as appropriate.

(Refer to AIM.)

**NO GYRO VECTOR**–

(See NO GYRO APPROACH.)

**NO TRANSGRESSION ZONE (NTZ)**– The NTZ is a 2,000 foot wide zone, located equidistant between parallel runway or SOIA final approach courses, in which flight is normally not allowed.

**NONAPPROACH CONTROL TOWER**– Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace. The primary function of a nonapproach control tower is the sequencing of aircraft in the traffic pattern and on the landing area. Nonapproach control towers also separate aircraft operating under instrument flight rules clearances from approach controls and centers. They provide ground control services to aircraft, vehicles, personnel, and equipment on the airport movement area.

**NONCOMMON ROUTE/PORTION**– That segment of a North American Route between the inland navigation facility and a designated North American terminal.

**NONDIRECTIONAL BEACON**– An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his/her bearing to or from the radio beacon and “home” on or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

(See AUTOMATIC DIRECTION FINDER.)

(See COMPASS LOCATOR.)

**NONMOVEMENT AREAS**– Taxiways and apron (ramp) areas not under the control of air traffic.

**NONPRECISION APPROACH**–

(See NONPRECISION APPROACH PROCEDURE.)

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

**NONRADAR**– Precedes other terms and generally means without the use of radar, such as:



**a. Nonradar Approach.** Used to describe instrument approaches for which course guidance on final approach is not provided by ground-based precision or surveillance radar. Radar vectors to the final approach course may or may not be provided by ATC. Examples of nonradar approaches are VOR, NDB, TACAN, ILS, RNAV, and GLS approaches.

(See FINAL APPROACH COURSE.)

(See FINAL APPROACH-IFR.)

(See INSTRUMENT APPROACH PROCEDURE.)

(See RADAR APPROACH.)

**b. Nonradar Approach Control.** An ATC facility providing approach control service without the use of radar.

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

**c. Nonradar Arrival.** An aircraft arriving at an airport without radar service or at an airport served by a radar facility and radar contact has not been established or has been terminated due to a lack of radar service to the airport.

(See RADAR ARRIVAL.)

(See RADAR SERVICE.)

**d. Nonradar Route.** A flight path or route over which the pilot is performing his/her own navigation. The pilot may be receiving radar separation, radar monitoring, or other ATC services while on a nonradar route.

(See RADAR ROUTE.)

**e. Nonradar Separation.** The spacing of aircraft in accordance with established minima without the use of radar; e.g., vertical, lateral, or longitudinal separation.

(See RADAR SEPARATION.)

**NON-RESTRICTIVE ROUTING (NRR)**– Portions of a proposed route of flight where a user can flight plan the most advantageous flight path with no requirement to make reference to ground-based NAVAIDs.

**NOPAC**–

(See NORTH PACIFIC.)

**NORDO** (No Radio)– Aircraft that cannot or do not communicate by radio when radio communication is required are referred to as “NORDO.”

(See LOST COMMUNICATIONS.)

**NORMAL OPERATING ZONE (NOZ)**– The NOZ is the operating zone within which aircraft flight remains during normal independent simultaneous parallel ILS approaches.

**NORTH AMERICAN ROUTE**– A numerically coded route preplanned over existing airway and route systems to and from specific coastal fixes serving the North Atlantic. North American Routes consist of the following:

**a. Common Route/Portion.** That segment of a North American Route between the inland navigation facility and the coastal fix.

**b. Noncommon Route/Portion.** That segment of a North American Route between the inland navigation facility and a designated North American terminal.

**c. Inland Navigation Facility.** A navigation aid on a North American Route at which the common route and/or the noncommon route begins or ends.

**d. Coastal Fix.** A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

**NORTH AMERICAN ROUTE PROGRAM (NRP)**– The NRP is a set of rules and procedures which are designed to increase the flexibility of user flight planning within published guidelines.

**NORTH ATLANTIC HIGH LEVEL AIRSPACE (NAT HLA)**– That volume of airspace (as defined in ICAO Document 7030) between FL 285 and FL 420 within the Oceanic Control Areas of Bodo Oceanic, Gander Oceanic, New York Oceanic East, Reykjavik, Santa Maria, and Shanwick, excluding the Shannon and Brest Ocean Transition Areas. ICAO Doc 007 *North Atlantic Operations and Airspace Manual* provides detailed information on related aircraft and operational requirements.

**NORTH MARK**– A beacon data block sent by the host computer to be displayed by the ARTS on a 360 degree bearing at a locally selected radar azimuth and distance. The North Mark is used to ensure correct range/azimuth orientation during periods of CENRAP.

**NORTH PACIFIC**– An organized route system between the Alaskan west coast and Japan.

**NOT STANDARD**– Varying from what is expected or published. For use in NOTAMs only.

**NOT STD-**

(See NOT STANDARD.)

**NOTAM–**

(See NOTICE TO AIRMEN.)

**NOTAM [ICAO]–** A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

**a. I Distribution–** Distribution by means of telecommunication.

**b. II Distribution–** Distribution by means other than telecommunications.

**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.

**NOTAM(D)–** A NOTAM given (in addition to local dissemination) distant dissemination beyond the area of responsibility of the Flight Service Station. These NOTAMs will be stored and available until canceled.

**c. FDC NOTAM–** A NOTAM regulatory in nature, transmitted by USNOF and given system wide dissemination.

(See ICAO term NOTAM.)

**NOTICES TO AIRMEN PUBLICATION–** A publication issued every 28 days, designed primarily for the pilot, which contains current NOTAM information considered essential to the safety of flight as well as supplemental data to other aeronautical publications. The contraction NTAP is used in NOTAM text.

(See NOTICE TO AIRMEN.)

**NRR–**

(See NON–RESTRICTIVE ROUTING.)

**NRS–**

(See NAVIGATION REFERENCE SYSTEM.)

**NTAP–**

(See NOTICES TO AIRMEN PUBLICATION.)

***NUMEROUS TARGETS VICINITY (LOCATION)–*** A traffic advisory issued by ATC to advise pilots that targets on the radar scope are too numerous to issue individually.

(See TRAFFIC ADVISORIES.)

# Q

**Q ROUTE**– ‘Q’ is the designator assigned to published RNAV routes used by the United States.

**QFE**– The atmospheric pressure at aerodrome elevation (or at runway threshold).

**QNE**– The barometric pressure used for the standard altimeter setting (29.92 inches Hg.).

**QNH**– The barometric pressure as reported by a particular station.

**QUADRANT**– A quarter part of a circle, centered on a NAVAID, oriented clockwise from magnetic north

as follows: NE quadrant 000-089, SE quadrant 090-179, SW quadrant 180-269, NW quadrant 270-359.

**QUEUING**–

(See STAGING/QUEUING.)

**QUICK LOOK**– A feature of the EAS and ARTS which provides the controller the capability to display full data blocks of tracked aircraft from other control positions.

