

5.0 MISCELLANEOUS

5.1 GLOSSARY OF AERONAUTICAL TERMS

“Acknowledge”

An expression used in radiocommunication meaning “Let me know that you have received and understood this message.”

acts of unlawful interference

Acts or attempted acts such as to jeopardize the safety of civil aviation and air transport, i.e.:

- (a) unlawful seizure of aircraft in flight;
- (b) unlawful seizure of aircraft on the ground;
- (c) hostage-taking on board aircraft or on aerodromes;
- (d) forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility;
- (e) introduction on board an aircraft or at an airport of a weapon or hazardous device or material intended for criminal purposes;
- (f) communication of false information such as to jeopardize the safety of an aircraft in flight or on the ground, of passengers, crew, ground personnel or the general public, at an airport or on the premises of a civil aviation facility.

aerodrome

Any area of land, water (including the frozen surface thereof) or other supporting surface used, designed, prepared, equipped or set apart for use, either in whole or in part, for the arrival, departure, movement or servicing of aircraft. This includes any buildings, installations and equipment situated thereon or associated therewith.

aerodrome traffic frequency (ATF)

A very high frequency (VHF) designated to ensure that all radio-equipped aircraft operating at or in the vicinity of an aerodrome, or in a defined area where VFR traffic is high, are listening on a common frequency and following a common reporting procedure.

afterimage

A collection of light, dark, or coloured spots, perceived after exposure to bright light, that may be distracting and disruptive and may persist for several minutes.

- see also: **flash blindness, glare**

airborne collision avoidance system (ACAS)

An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

aircraft critical surface contamination (ACSC)

Presence of substances, including frost, ice and snow, on the critical surface of an aircraft that can have an adverse impact on the performance of an aircraft.

aircraft radio control of aerodrome lighting (ARCAL)

A system used by pilots to control some or all of the aerodrome lighting, aside from obstacle lights, via the aircraft VHF transmitter and the microphone on the appropriate frequency.

air defence identification zone (ADIZ)

An airspace of defined dimensions extending upwards from the surface of the earth within which certain rules for the security control of air traffic apply.

airport (APRT)

An aerodrome for which an airport certificate is in force.

airspace classification (see RAC 2.8).

The division of the Canadian Domestic Airspace (CDA) into seven classes, each identified by a single letter: A, B, C, D, E, F or G. The application of any classification to an airspace structure determines the operating rules, the level of ATC service provided within the structure and, in some instances, communications and equipment requirements. The horizontal and vertical limits of airspace are described in the *Designated Airspace Handbook* (DAH).

air traffic

All aircraft in flight or operating on the manoeuvring area of an aerodrome.

air traffic control clearance

An authorization issued by an ATC unit for an aircraft to proceed within controlled airspace in accordance with the conditions specified by that unit.

- also called: **air traffic clearance, ATC clearance and clearance**

air traffic control instruction

A directive issued by an ATC unit for ATC purposes.

air traffic control service

A service provided for the purposes of

- (a) preventing collisions between
 - (i) aircraft;
 - (ii) aircraft and obstacles; and
 - (iii) aircraft and vehicles on the manoeuvring area; and
- (b) expediting and maintaining an orderly flow of air traffic.
 - also called: **ATC service**

air traffic control unit

As the circumstances require, this may be

- (a) an area control centre (ACC) established to provide ATC service to aircraft; or
- (b) an airport control tower unit established to provide ATC service to airport traffic.
 - also called: **ATC unit**

alternate aerodrome

An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or land at the aerodrome of intended landing. Alternate aerodromes include the following:

- (a) takeoff alternate aerodrome
- (b) en-route alternate aerodrome
- (c) destination alternate aerodrome

NOTE:

The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

apron

That part of an aerodrome, other than the manoeuvring area, intended to accommodate the loading and unloading of passengers and cargo; the refuelling, servicing, maintenance and parking of aircraft; and any movement of aircraft, vehicles and pedestrians engaged in services for such purposes.

- also called: **flight line, ramp and tarmac**

arc

The track over the ground of an aircraft flying at a constant distance from a NAVAID by reference to distance measuring equipment (DME).

Arctic Control Area (ACA) (see RAC Figure 2.3)

A controlled airspace within the Northern Domestic Airspace (NDA) at FL 270 and above.

area minimum altitude (AMA)

The lowest altitude that may be used under instrument meteorological conditions (IMC) that will provide a minimum vertical clearance of 1000 ft or, in a designated mountainous region, 2000 ft, rounded up to the next 100-ft increment, under conditions of standard temperature and pressure, above all obstacles located in the area specified.

NOTE

This term replaced the term geographic area safe altitude (GASA) on April 18, 2002.

area navigation (RNAV)

A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based NAVAIDs or within the limits of the capability of self-contained aids, or a combination of these.

automatic dependent surveillance-broadcast (ADS-B)

A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.

automatic landing operation (autoland operation)

An operation during which an automatic landing system carries out an aircraft's approach and landing under the supervision of the crew.

ballistic parachute system

An aircraft parachute system that extracts/propels the parachute via an ignitable propellant (e.g. rocket motor or explosive charge).

barometric vertical navigation (baro-VNAV)

A function of certain RNAV systems that presents to the pilot computed vertical guidance referenced to a specified vertical path, based on barometric altitude information and typically computed as a geometric path between two waypoints or an angle based on a single waypoint.

- also called: **lateral navigation/vertical navigation (LNAV/VNAV)**

broadcast (BCST)

A transmission of information relating to air navigation that is not addressed to a specific station or stations.

Canadian Domestic Airspace (CDA)

As geographically delineated in the *Designated Airspace Handbook* (DAH), all airspace over the Canadian land mass, the Canadian Arctic and the Canadian archipelago, and over areas of the high seas.

ceiling

The lesser of:

- (a) the height above ground or water of the base of the lowest layer of cloud covering more than half the sky; or
- (b) the vertical visibility in a surface-based layer which completely obscures the sky.

clear air turbulence (CAT)

Turbulence encountered in air where no clouds are present.

NOTE:

This expression is commonly applied to high-level turbulence associated with wind shear (WS). CAT is often encountered in the vicinity of the jet stream.

clearance limit

The point to which an aircraft is granted an ATC clearance.

“Cleared for the option”

- (a) For an arriving aircraft: An expression used to indicate ATC authorization for an aircraft to make a touch-and-go, low approach, missed approach (MA), stop-and-go, or full-stop landing, at the discretion of the pilot.
- (b) For a departing aircraft: An expression used to indicate ATC authorization for an aircraft to execute manoeuvres other than a normal takeoff (e.g. an aborted takeoff). After such a manoeuvre, the pilot is expected to exit the runway by the most expeditious way rather than backtrack the runway.

common frequency area (CFA)

An area that has a designated frequency published for use by any aircraft.

NOTE:

A CFA is intended to be used for air-to-air communications to provide pilots with an awareness of traffic in their vicinity. It is not a class of airspace and the CFA frequency is not monitored by ATC nor is it for use at uncontrolled aerodromes.

composite flight plan

A flight plan (FP) that specifies VFR operation for one portion of flight and IFR for another portion.

contact approach

An approach wherein an aircraft on an IFR flight plan (FP), having an ATC authorization and operating clear of clouds with at least 1 mi. flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure (IAP) and proceed to the destination airport by visual reference to the surface of the earth.

continuous descent final approach (CDFA)

A technique, consistent with stabilized approach procedures, for flying the final approach segment of a non-precision instrument approach procedure as a continuous descent, without level-off, from an altitude/height at or above the FAF altitude/height to a point approximately 15 m (50 ft) above the landing runway threshold or the point where the flare manoeuvre should begin for the type of aircraft flown.

- also called: **constant descent final approach**

control area extension (CAE)

A controlled airspace of defined dimensions within the low-level airspace (LLA), extending upwards from 2 200 ft AGL unless otherwise specified.

controlled airspace

An airspace of defined dimensions within which ATC service is provided.

controlled flight into terrain (CFIT)

An occurrence in which an aircraft, under the control of the crew, is flown into terrain, water or an obstacle with no prior awareness on the part of the crew of the impending disaster.

controlled VFR flight (CVFR)

A flight conducted under VFR within Class B airspace and in accordance with an ATC clearance.

control zone (CZ)

A controlled airspace of defined dimensions extending upwards from the surface of the earth up to and including 3 000 ft AAE unless otherwise specified.

critical surface

Any stabilizing surface of an aircraft, including the wings, control surfaces, rotors, propellers, horizontal stabilizers, vertical stabilizers and, in the case of an aircraft that has rear-mounted engines, the upper surface of its fuselage.

cruise climb

A cruising technique resulting in a net increase in altitude as the aircraft mass decreases. A clearance or instruction to carry out a cruise climb allows the pilot the option of climbing at any given rate, as well as the option of levelling off at any intermediate altitude.

cruising altitude

The altitude, as shown by a constant altimeter indication in relation to a fixed and defined datum, maintained during a flight or portion thereof.

day

The time between the beginning of morning civil twilight and the end of evening civil twilight.

- also called: daylight

dead reckoning navigation (DR)

The estimating or determining of position by advancing an earlier known position by the application of direction, time and speed data.

decision altitude (DA)

A specified altitude in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach to land has not been established.

NOTE:

Decision altitude (DA) is referenced to mean sea level (MSL) and decision height (DH) is referenced to the threshold elevation.

decision height (DH)

A specified height in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach to land has not been established.

NOTE:

Decision height (DH) is referenced to the threshold elevation and decision altitude (DA) is referenced to mean sea level (MSL).

defence visual flight rules (DVFR)

Rules applicable to flights within an air defence identification zone (ADIZ) conducted under VFR.

directed bright light source

Any directed light source that may create a hazard to aviation safety or cause damage to an aircraft or injury to persons on board.

NOTE:

Directed bright light sources include lasers, searchlights, spotlights, and image projectors.

downwind termination waypoint (DTW)

The waypoint located downwind to the landing runway abeam the final approach course fix (FACF) where an open RNAV STAR terminates.

engineered material arresting system (EMAS)

A soft ground arrestor system, located beyond the end of the runway and centred on the extended runway centreline, that deforms under the weight of an aircraft, bringing it to a safe stop in the event of an overrun without structural damage to the aircraft or injury to its occupants.

NOTE:

EMAS beds are made up of a grouping of blocks of crushable cellular concrete that will reliably deform under the weight of an aircraft.

evening civil twilight

Relative to the standard meridians of the time zones, the period that begins at sunset and ends at the time specified by the Institute of National Measurement Standards of the National Research Council of Canada.

NOTE:

Evening civil twilight ends in the evening when the centre of the sun's disc is 6° below the horizon.

expected approach time (EAT)

The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for landing.

expected further clearance time (EFC)

The time at which it is expected that further clearance will be issued to an aircraft.

expedite (to)

An expression used by ATC when prompt compliance is required to avoid the development of an imminent situation.

final approach area

The area within which the final approach portion of an instrument approach procedure (IAP) is carried out.

final approach course fix (FACF)

A fix and/or waypoint located on the final approach course of an instrument approach procedure (IAP)

- (a) prior to the point of glide path (GP) intercept on a precision approach procedure;
- (b) prior to the final approach fix (FAF) on a non-precision approach procedure that has a designated FAF;
- (c) prior to any stepdown fixes on a non-precision approach procedure with designated fixes but no FAF; or
- (d) at a point that would permit a normal landing approach on a non-precision approach procedure with no FAF or stepdown fixes.

final approach fix (FAF)

The fix of a non-precision instrument approach procedure (IAP) where the final approach segment commences.

final approach segment

That part of an instrument approach procedure (IAP) from the time that the aircraft

- (a) completes the last procedure turn or base turn, where one is specified;
- (b) intercepts the last track specified for the procedure;
- (c) (for non-precision approaches) crosses the final approach fix (FAF), final approach waypoint (FAWP) or final approach point (FAP); or
- (d) (for precision approaches) crosses the point where the vertical path or glide path intercepts the intermediate approach segment altitude until the aircraft reaches the missed approach point (MAP).
 - also called: **final approach**

flash blindness

The temporary or permanent inability to see caused by bright light entering the eye and persisting after the illumination has ceased.

- see also: **afterimage, glare**

flight information centre (FIC)

A centralized ATS unit that provides services pertinent to pre-flight and the en-route phase of flight.

flight information region (FIR) (see RAC Figure 2.2)

An airspace of defined dimensions extending upwards from the surface of the earth within which flight information service (FIS) and alerting service are provided.

flight information service en route (FISE)

The provision and receipt by a FIC of information pertinent to the en route phase of flight.

flight level (FL)

The altitude expressed in hundreds of feet indicated on an altimeter set to 29.92 in. of mercury or 1013.2 mb.

flight management system (FMS)

An aircraft computer system that uses a large database to allow routes to be programmed and fed into the system by means of data loader. The system is constantly updated with regard to position accuracy by reference to conventional NAVAIDs.

flight service station (FSS)

An ATS unit that provides services pertinent to the arrival and departure phases of flight at uncontrolled aerodromes and for transit through a mandatory frequency (MF) area.

flight technical error (FTE)

The difference between estimated position and defined path. It relates to the ability of an air crew or autopilot to fly along a defined path. Any display errors, such as a CDI centering error, may cause FTE. FTE is usually the largest error component of the total system error (TSE).

flight visibility

The average range of forward visibility at any given time from the cockpit of an aircraft in flight.

flow control

Measures designed to adjust the flow of traffic into a given airspace, along a given route, or bound for a given aerodrome, so as to ensure the most effective utilization of the airspace.

fuel dumping

The intentional airborne release of usable fuel, excluding the dropping of fuel tanks.

- also called: **fuel jettisoning**

fuel remaining

The amount of fuel remaining on board until actual fuel exhaustion.

glare

A temporary disruption in vision caused by a bright light within an individual's field of vision and lasting only as long as the light is present within that field of vision.

NOTE:

Visible laser light can produce glare and interfere with vision even at low energies, including levels well below that which produce eye damage.

- see also: **afterimage, flash blindness**

“Go around”

An expression used in radiocommunications to instruct a pilot to abandon an approach or landing.

ground visibility

In respect of an aerodrome, the visibility at that aerodrome as contained in a weather observation reported by

- an ATC unit;
- an FSS or FIC;
- a community aerodrome radio station (CARS);
- an automated weather observation system (AWOS) used by the Department of Transport, the Department of National Defence or the Atmospheric Environment Service for the purpose of making aviation weather observations; or
- a radio station that is ground-based and operated by an air operator.

hang glider

A motorless heavier-than-air aircraft deriving its lift from surfaces that remain fixed in flight, designed to carry not more than two persons and having a launch weight of 45 kg (99.2 lb) or less.

“Have numbers”

An expression used by pilots to indicate that they have received runway, wind and altimeter information only.

heading (HDG)

The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from north (true, magnetic, compass or grid north).

height above aerodrome (HAA)

The height in feet of the minimum descent altitude (MDA) above the published aerodrome elevation.

height above touchdown zone elevation

The height in feet of the decision height (DH) or the minimum descent altitude (MDA) above the touchdown zone elevation (TDZE).

- also called: **height above touchdown (HAT) and height above touchdown zone**

high-intensity runway operations (HIRO)

Operations, used at some airports, that consist of optimizing separation of aircraft on final approach in order to minimize runway occupancy time (ROT) for both arriving and departing aircraft so as to increase runway capacity.

high-level air route

In high-level airspace (HLA), a prescribed track between specified fixes.

NOTE:

On aeronautical charts, high-level air routes are indicated by letters such as “T” or “NAT.”

high-level airspace (HLA)

All airspace within the Canadian Domestic Airspace (CDA) at or above 18 000 ft ASL.

high-level airway

In controlled high-level airspace (HLA), a prescribed track between specified fixes.

NOTE:

On aeronautical charts, high-level airways are indicated by the letter “J” (e.g. J500).

ICAO three-letter designator (ICAO 3LD)

An exclusive designator that, when used together with a flight number, becomes the aircraft call sign and provides distinct aircraft identification to ATS.

NOTE:

A telephony designator associated with an ICAO 3LD is used for radio communication.

initial approach segment

That part of an instrument approach procedure (IAP) between the initial approach fix (IAF) or waypoint and the intermediate approach fix (IF) or waypoint during which the aircraft departs the en route phase of flight and manoeuvres to enter the intermediate segment.

- also called: **initial approach**

instrument approach procedure (IAP)

A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix (IAF), or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en route obstacle clearance criteria apply.

- also called: **instrument approach**

instrument meteorological conditions (IMC)

Meteorological conditions less than the minima specified in Subpart 602 of the *Canadian Aviation Regulations* (CARs) for visual meteorological conditions (VMC), expressed in terms of visibility and distance from cloud.

intermediate approach segment

That part of an instrument approach procedure (IAP) between the intermediate approach fix (IF) or waypoint and the final approach fix (FAF), waypoint or point, or between the end of a track reversal, racetrack or dead-reckoning track procedure and the FAF, waypoint or point, as appropriate. It is in this part of the procedure that aircraft configuration, speed and positioning adjustments are made for entry into the final approach segment.

- also called: **intermediate approach**

intersection (INTXN)

As the circumstances require, this may be

- a point on the surface of the earth over which two or more position lines intersect. The position lines may be true bearings from non-directional beacons (NDB) (magnetic bearings shown on chart for pilot usage); radials from VHF/UHF NAVAIDs; centrelines of airways, fixed RNAV routes or air routes; localizers; or DME distances; or
- the point where two runways, a runway and a taxiway, or two taxiways cross or meet.

Land and Hold Short Operations (LAHSO)

Operations that include simultaneous takeoffs and landings and/or simultaneous landings when a landing aircraft is able and is instructed by the controller to hold short of the intersecting runway/taxiway or designated hold-short point.

NOTE:

This term replaces the term *Simultaneous Intersecting Runway Operations* (SIRO)

laser (or light amplification by stimulated emission of radiation)

A device that produces an intense, directional, coherent beam of light.

low approach

An approach over an airport or runway following an instrument approach procedure (IAP) or VFR approach, including the overshoot manoeuvre, where the pilot intentionally does not make contact with the runway.

low-level air route

Within low-level uncontrolled airspace, a route extending upwards from the surface of the earth and for which ATC service is not provided.

low-level airspace (LLA)

All airspace within the Canadian Domestic Airspace (CDA) below 18 000 ft ASL.

low-level airway

Within controlled low-level airspace (LLA), a route extending upwards from 2 200 ft above the surface of the earth and for which ATC service is provided.

low-visibility operations plan (LVOP)

A plan that calls for specific procedures established by the aerodrome operator and/or ATS when aerodrome visibility is below RVR 1 200 (¼ SM).

L-routes

L-routes are low-level uncontrolled fixed RNAV routes depicted on En Route Low Altitude charts using green dashed lines and require GNSS RNAV systems for use. The MOCA provides obstacle protection for only 6 NM either side of the track centreline and does not splay.

mandatory frequency (MF)

A very high frequency (VHF) specified in the *Canada Air Pilot (CAP)*, the *Canada Flight Supplement (CFS)* or the *Canada Water Aerodrome Supplement (CWAS)* for the use of radio-equipped aircraft operating within a mandatory frequency (MF) area.

manoeuvring area

The part of an aerodrome, other than an apron, that is intended to be used for the takeoff and landing of aircraft and for the movement of aircraft associated with takeoff and landing.

MEDEVAC

A term used to request ATS priority handling for a medical evacuation flight based on a medical emergency in the transport of patients, organ donors, organs or other urgently needed life-saving medical material.

NOTE:

This term is used on flight plans (FP) and in radiotelephony communications if a pilot determines that a priority is required and is suffixed to the aircraft identification.

military operations area (MOA)

An airspace of defined dimensions established to segregate certain military activities from IFR traffic and to identify, for VFR traffic, where these activities are conducted.

military terminal control area (MTCA)

A controlled airspace of defined dimensions normally established in the vicinity of a military aerodrome and within which special procedures and exemptions exist for military aircraft. The terminology (Class B, C, D or E equivalent) used for the designations of MTCA describes the equivalent level of service and operating rules for civilian aircraft operating within the MTCA and under military control.

minimum descent altitude (MDA)

The altitude above sea level (ASL) specified in the *Canada Air Pilot (CAP)* or the route and approach inventory for a non-precision approach, below which descent shall not be made until the required visual reference to continue the approach to land has been established.

minimum en route altitude (MEA)

The altitude above sea level (ASL) between specified fixes on airways or air routes that assures acceptable navigational signal coverage and that meets the IFR obstacle clearance requirements.

NOTE:

This altitude is published on aeronautical charts.

minimum fuel

An expression used to inform ATC that an aircraft's fuel supply has reached a state that is sufficient to reach destination, provided that unexpected delays are not encountered.

minimum IFR altitude

The lowest IFR altitude established for use in a specific airspace. Depending on the airspace concerned, the minimum IFR altitude may be a minimum obstacle clearance altitude (MOCA), a minimum en route altitude (MEA), a minimum sector altitude (MSA), a minimum vectoring altitude (MVA), a safe altitude within a radius of 100 NM, an area minimum altitude (AMA), a transition altitude or a missed approach altitude. The minimum IFR altitude provides obstacle clearance but may or may not be within controlled airspace.

minimum obstacle clearance altitude (MOCA)

The altitude above sea level (ASL) between specified fixes on airways or air routes that meets the IFR obstacle clearance requirements for the route segment in question.

NOTE:

This altitude is published on aeronautical charts.

minimum reception altitude (MRA)

When applied to a specific VHF/UHF intersection, the lowest altitude above sea level (ASL) at which acceptable navigational signal coverage is received to determine the intersection.

minimum sector altitude (MSA)

The lowest altitude that will provide a minimum clearance of 1000 ft, under conditions of standard temperature and pressure above all objects located in an area contained within a sector of a circle with a 25 NM radius centred on a radio aid to navigation or a specified point.

minimum vectoring altitude (MVA)

The lowest altitude for vectoring aircraft by ATC that meets obstacle clearance and radio coverage requirements in the airspace specified.

missed approach point (MAP)

The point on the final approach course that signifies the termination of the final approach and the commencement of the missed approach segment. It may be

- (a) the intersection of an electronic glide path (GP) with a decision height (DH);
- (b) a NAVAID located on the aerodrome;
- (c) a suitable fix (e.g. distance measuring equipment [DME]); or
- (d) a specified distance beyond the NAVAID or final approach fix (FAF), not to exceed the distance from that NAVAID or fix to the nearest boundary of the aerodrome.

missed approach segment

That part of an instrument approach procedure (IAP) between the missed approach point (MAP), the missed approach waypoint (MAWP), or the point of arrival at decision height (DH), and the specified missed approach NAVAID, intersection, fix or waypoint, as appropriate, at the minimum IFR altitude. It is in this part of the approach procedure that the aircraft climbs and returns to the en route structure or is positioned for holding or a subsequent approach. The route of flight and altitudes are depicted on instrument approach charts.

- also called: **missed approach**

morning civil twilight

Relative to the standard meridians of the time zones, the period that begins at the time specified by the Institute for National Measurement Standards of the National Research Council of Canada and ends at sunrise.

NOTE:

Morning civil twilight begins in the morning when the centre of the sun's disc is 6° below the horizon.

mountainous region (see RAC Figure 2.10)

An area of defined lateral dimensions above which special rules concerning minimum en route altitudes (MEA) apply.

movement area

The part of an aerodrome that is intended to be used for the surface movement of aircraft and that includes the manoeuvring area and aprons.

multiple-touch and-gos

A procedure in which an aircraft makes more than one touch-and-go during a single pass along a runway.

- see also: **touch-and-go**

navigation aid (NAVAID)

Any visual or electronic device, airborne or on the surface of the earth, that provides point-to-point guidance information or position data to aircraft in flight.

- also called: **navigational aid**

navigation system error (NSE)

The difference between true and estimated position. The NSE is defined during navigation system certification.

night

The time between the end of evening civil twilight and the beginning of morning civil twilight.

non-precision approach procedure

An instrument approach procedure (IAP) in which only electronic azimuth information is provided. No electronic glide path (GP) information is provided and obstacle assessment in the final segment is based on minimum descent altitude (MDA).

non-RVSM aircraft

An aircraft that does not meet reduced vertical separation minimum (RVSM) requirements for certification and/or for operator approval.

Northern Control Area (NCA) (see RAC Figure 2.3)

A controlled airspace within the Northern Domestic Airspace (NDA) at FL 230 and above.

Northern Domestic Airspace (NDA) (see RAC Figure 2.1)

As geographically delineated in the *Designated Airspace Handbook* (DAH), a subdivision of Canadian Domestic Airspace (CDA) commencing at the North Pole and extending southward to the northern limit of the Southern Domestic Airspace (SDA).

North Warning System (NWS)

A multiradar system that provides airspace surveillance and command and control capability for air defence identification over the northern approaches to North America.

NOTAM

A notice distributed by means of telecommunication 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.

obstacle (OBST)

All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight.

- also called: **obstruction**

obstacle free zone (OFZ)

The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangibly mounted one required for air navigation purposes.

obstruction

- also called: **obstacle**

pavement classification number (PCN)

Numbers expressing, in ICAO terminology, the bearing strength of a pavement for unrestricted operations in a similar fashion to Transport Canada's pavement load rating (PLR).

path definition error (PDE)

The difference between desired and defined paths which reflects errors in the navigation database, computational errors in the RNAV system and display errors. PDE is usually very small and often assumed to be negligible.

performance-based navigation (PBN)

Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

NOTE:

Performance requirements are expressed in navigation specifications in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation.

pilot briefing

The provision of, or consultation on, meteorological and aeronautical information to assist pilots in pre-flight planning.

- also called: **pre-flight pilot briefing**

precision approach radar (PAR)

A high-definition, short-range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy for the purpose of assisting the pilot in executing an approach and landing. This form of navigation assistance is termed "precision radar approach".

pre-departure clearance (PDC)

An initial IFR clearance delivered electronically via air-ground data link (AGDL) to airline companies with an on-site computer capable of interfacing with ATC and the data link service provider.

NOTE:

Following initial delivery of the clearance to the air operator, the latter may subsequently relay the clearance by non-electronic means to the flight crew if the aircraft is not suitably equipped.

preferential runway

One or more runways designated and published by the airport operator whose selection directs aircraft away from noise-sensitive areas during the initial departure and final approach phases of flight. Designation of preferential runways may be governed by time restrictions, weather, runway conditions, airport layout, aircraft routings or capacity maximization.

procedure turn (PT)

A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

procedure turn inbound

The point of a procedure turn manoeuvre where course reversal has been completed and an aircraft is established inbound on the intermediate approach or final approach course. A report of "procedure turn inbound" is normally used by ATC as a position report for separation purposes.

progressive taxi

Precise taxi instructions given to a pilot unfamiliar with the aerodrome or issued in stages as the aircraft proceeds along the taxi route.

Q-routes

Q-routes are high-level fixed RNAV routes depicted on En Route High Altitude charts using black dashed lines and require an RNAV system with performance capabilities currently only met by GNSS or distance measuring equipment/inertial reference unit (DME/DME/IRU) systems. DME/DME/IRU navigation may be limited in some parts of Canada owing to navigational facility coverage. In such cases, the routes will be annotated as "GNSS only" on the chart.

radar identification

The process of ascertaining that a particular target is the radar echo from a specific aircraft.

"Radar identified"

An expression used by ATC to inform the pilot of an aircraft when radar identification is established.

RADAR REQUIRED

Annotation used on an instrument approach chart to indicate that the procedure turn may have been eliminated and that the initial approach portion of the procedure is being provided by ATC vectors. Without ATC vectoring, the instrument approach procedure (IAP) may not have a published initial approach.

radial (R)

A magnetic bearing from a VHF omnidirectional range (VOR), tactical air navigation aid (TACAN), or VORTAC facility, except for facilities in the Northern Domestic Airspace (NDA), which may be oriented on true or grid north.

reduced vertical separation minimum (RVSM)

The application of 1 000-ft vertical separation at and above FL 290 between aircraft approved to operate in reduced vertical separation minimum airspace.

reduced-visibility operations plan (RVOP)

A plan that calls for specific procedures established by the aerodrome operator and/or ATC when aerodrome visibility is below RVR 2 600 (½ SM) down to and including RVR 1 200 (¼ SM).

remotely piloted aircraft (RPA)

A navigable aircraft, other than a balloon, rocket or kite, that is operated by a pilot who is not on board.

remotely piloted aircraft system (RPAS)

A set of configurable elements consisting of a remotely piloted aircraft, its control station, the command and control links and any other system elements required during flight operation.

required navigation performance (RNP)

A statement of the navigation performance accuracy necessary for operation within a defined airspace.

required visual reference

In respect of an aircraft on an approach to a runway, the section of the approach area of the runway or the visual aids that, when viewed by the pilot of the aircraft, enable the pilot to make an assessment of the aircraft position and the rate of change of position relative to the nominal flight path in order to continue the approach and complete the landing.

resolution advisory (RA)

An advisory issued by airborne collision avoidance system (ACAS)/traffic alert and collision avoidance system (TCAS) to alert pilots to potential conflicting air traffic and provide them with a suggested flight-path change in the vertical plane to reduce the possibility of collision.

restricted airspace

An airspace of defined dimensions above land areas or territorial waters within which the flight of aircraft is restricted in accordance with certain specified conditions.

- also called: **restricted area**

“Resume normal speed”

An expression used by ATC to advise a pilot that previously issued speed restrictions are cancelled, but that published speed restrictions are still applicable, unless otherwise stated by ATC.

runway edge lights (REDL)

Aeronautical ground lights located along the edges of the runway.

runway end safety area (RESA)

An area that extends from the end of the runway strip, primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.

runway heading

The magnetic or true direction that corresponds with the runway centreline rather than the painted runway numbers.

runway incursion

Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.

runway in use

Any runway currently being used for takeoff or landing. When multiple runways are used, they are all considered runways in use.

runway lights

Aeronautical ground lights located on a runway, indicating its direction or boundaries, and including but not limited to runway centreline lights, runway edge lights, runway end lights, threshold lights and touchdown zone lights.

runway strip

A defined area, which includes the runway and stopway where provided, intended to protect aircraft flying over it during take-off or landing operations.

RVSM Aircraft

An aircraft that meets reduced vertical separation minimum (RVSM) requirements for certification and for operator approval.

safe altitude within a radius of 100 NM

The lowest altitude that may be used under instrument meteorological conditions (IMC) that will provide a minimum vertical clearance of 1000 ft or, in a designated mountainous region, 1500 or 2000 ft, as appropriate, rounded up to the next 100-ft increment, under conditions of standard temperature and pressure, above all obstacles located in an area contained within a radius of 100 NM of the aerodrome geometric centre.

secondary surveillance radar (SSR)

A radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on transponder-generated signals rather than signals reflected from the aircraft, as in primary surveillance radar, it offers significant operational advantages such as increased range and positive identification.

shuttle procedure

A manoeuvre involving a descent or climb in a pattern resembling a holding pattern.

Southern Control Area (SCA) (see RAC Figure 2.3)

A controlled airspace within the Southern Domestic Airspace (SDA) at 18 000 ft ASL and above.

Southern Domestic Airspace (SDA) (see RAC Figure 2.1)

As geographically delineated in the *Designated Airspace Handbook* (DAH), all airspace within the Canadian Domestic Airspace (CDA) commencing at the Canada-United States border and extending northward to the southern limit of the Northern Domestic Airspace (NDA).

“Squawk ident”

A request for a pilot to activate the aircraft transponder identification feature.

standard instrument departure (SID)

A preplanned IFR departure procedure requiring ATC clearance and published for pilot/controller use to provide obstacle clearance and a transition from an aerodrome to the appropriate en route structure.

NOTE:

IDs are published in the *Canada Air Pilot* (CAP) for pilot and controller use. SIDs may be either:

- (a) pilot navigation SIDs: SIDs where the pilot is required to use the applicable SID chart as reference for navigation to the en route phase; or
- (b) vector SIDs: SIDs established where ATC will provide radar navigational guidance to a filed or assigned route, or to a fix depicted on the applicable SID chart. Pilots are expected to use the SID chart as a reference for navigation until the vector is commenced.

standard terminal arrival (STAR)

An IFR ATC arrival procedure published in the *Canada Air Pilot* (CAP) for pilot and controller use.

stepdown fix

A fix permitting additional descent within a segment of an instrument approach procedure (IAP) by identifying the point at which a controlling obstacle has been safely overflowed.

stop-and-go

A procedure in which an aircraft lands, makes a complete stop on the runway, and then commences a takeoff from that point.

straight-in approach

- (a) A VFR approach in which the aircraft enters the aerodrome traffic circuit on the final leg without having executed any other part of the circuit.
- (b) An IFR approach in which the aircraft begins the final approach without first having executed a procedure turn (PT).

terminal arrival area (TAA)

An area, bounded by tracks and distances to identified waypoints, depicted on select GNSS approach charts indicating altitudes that provide a minimum clearance of 1 000 ft above all obstacles.

terminal control area (TCA)

A controlled airspace of defined dimensions that is normally established in the vicinity of one or more major aerodromes and within which ATC service is provided based on the airspace classification.

threshold

The beginning of the portion of the runway usable for landing.

threshold crossing height (TCH)

The height of the glide path (GP) above the runway threshold.

total system error (TSE)

The difference between true position and desired position. This error is equal to the sum of the vectors of the PDE, FTE, and NSE.

touch-and-go

A procedure in which an aircraft lands and then takes off without stopping.

touchdown zone (TDZ)

The first 3 000 ft of the runway or the first third of the runway, whichever is less, measured from the threshold in the direction of landing.

touchdown zone elevation (TDZE)

The highest centreline elevation in the touchdown zone.

track

The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from true, magnetic or grid north.

traffic advisory (TA)

An advisory issued by airborne collision avoidance system (ACAS)/ traffic alert and collision avoidance system (TCAS) to alert pilots to other air traffic that may be in such proximity to the position or intended route of flight of their aircraft as to warrant their attention.

transition

- (a) The general term that describes the change from one phase of flight or flight conditions to another, e.g. transition from en route flight to the approach or transition from instrument flight to visual flight.
- (b) A published procedure used to connect the basic standard instrument departure (SID) to one or more en route airways or to connect one or more en route airways to the basic standard terminal arrival (STAR). More than one transition may be published in the associated SID or STAR.

- also called: **feeder route**

T-routes

T-routes are low-level controlled fixed RNAV routes depicted on En Route Low Altitude charts using black dashed lines and require GNSS RNAV systems for use. The airspace associated with T-routes extends upward from 2 200 ft AGL, 10 NM either side of the centreline, and does not splay. The MOCA provides obstacle protection for only 6 NM either side of the track centreline and does not splay.

unmanned air vehicle (UAV)

A power-driven aircraft, other than a model aircraft, that is designed to fly without a human operator on board.

vector

A heading given by a controller to a pilot on the basis of radar-derived information to provide navigational guidance.

- also called: **radar vectoring**

visual approach

An approach wherein an aircraft on an IFR flight plan (FP), operating in visual meteorological conditions (VMC) under the control of ATC and having ATC authorization, may proceed to the airport of destination.

visual meteorological conditions (VMC)

Meteorological conditions, expressed in terms of visibility and distance from cloud, equal to or greater than the minima specified in CAR 602.

visual separation

A means used by controllers to separate aircraft operating in visual meteorological conditions (VMC).

- VFR—The controller, having determined that a potential conflict exists, issues clearances, instructions and/or information as necessary to aid aircraft in establishing visual contact with each other or to assist aircraft in avoiding other aircraft.
- IFR or CVFR—Following a pilot's report that the traffic is in sight, the controller issues the clearance and instructs the pilot to provide his or her own separation by manoeuvring the aircraft as necessary to avoid or follow the traffic.

waypoint (WP)

A specified geographical location, defined by longitude and latitude, that is used in the definition of routes and terminal segments and for progress-reporting purposes.

“When ready...”

Authorization for an aircraft to comply with a clearance or instruction at some point in the future when convenient.

wind shear (WS)

A change in wind speed and/or wind direction in a short distance.

NOTE:

Wind shear can exist in a horizontal or vertical direction and occasionally in both.

5.2 ABBREVIATIONS AND ACRONYMS

AAE	above aerodrome elevation	ATN	aeronautical telecommunications network
AAIR	Annual Airworthiness Information Report	ATPL	airline transport pilot licence
AAS	aerodrome advisory service	ATS	air traffic service
ABAS	aircraft-based augmentation system	AU	approach UNICOM
AC	Advisory Circular	AVASI	abbreviated visual approach slope indicator
ACA	Arctic Control Area	AVGAS	aviation gasoline
ACARS	aircraft communications addressing and reporting system	AVOPS	Aviation Operations Centre
ACAS	airborne collision avoidance system	AWOS	automated weather observation system
ACC	area control centre	AWWS	Aviation Weather Web Site
A-CDM	Airport Collaborative Decision Making	baro-VNAV	barometric vertical navigation
ACSC	aircraft critical surface contamination	BCST	broadcast
AD	Airworthiness Directive	BOTA	Brest oceanic transition area
ADB	aviation document booklet	BPL	balloon pilot licence
ADCUS	“Advise customs”	BVLOS	beyond visual line-of-sight
ADF	automatic direction finder	C	Celsius
ADIZ	air defence identification zone	CADORS	Civil Aviation Daily Occurrence Reporting System
ADS	automatic dependence surveillance	CAE	control area extension
ADS-B	automatic dependent surveillance - broadcast	CAME	Civil Aviation Medical Examiner
ADS-C	automatic dependent surveillance - contract	CAP	Canada Air Pilot
ADS WPR	automatic dependent surveillance waypoint position report(ing)	CARS	Canadian Aviation Regulations
AFCGS	automatic flight control guidance system	CARAC	Canadian Aviation Regulation Advisory Council
AFCS	automatic flight control system	CARC	Civil Aviation Regulatory Committee
AFM	aircraft flight manual	CARS	community aerodrome radio station
AFN	air traffic services facilities notification	CASARA	Civil Air Search and Rescue Association
AFS	aeronautical fixed service	CAT	clear air turbulence
AFTN	Aeronautical Fixed Telecommunications Network	CAT I, II, III	Category I, II, III
AGL	above ground level	CAVOK	ceiling and visibility OK
AGN	aircraft group number	CDA	Canadian Domestic Airspace
AIC	aeronautical information circular	CDA	departure clearance readback (data link)
AIM	Aeronautical Information Management (NAV CANADA)	CDFA	constant descent final approach
AIP	Aeronautical Information Publication	CDI	course deviation indicator
AIRAC	Aeronautical Information Regulation and Control	CFA	common frequency area
AIREP	air report	CFB	Canadian Forces base
AIS	aeronautical information service	CFS	Canada Flight Supplement
ALR	aircraft load rating	CFIT	controlled flight into terrain
ALSF-2	approach lighting with sequenced flashers-CAT II	CG	centre of gravity
ALT	altitude	CLD	departure clearance message (data link)
ALTRV	altitude reservation	CLDN	Canadian Lightning Detection Network
AM	amplitude modulation	CMA	Central Monitoring Agency
AMA	area minimum altitude	CMAC	Canadian Meteorological Aviation Centre
AME	aircraft maintenance engineer	CMC	Canadian Meteorological Centre
AMIS	aircraft movement information service	CMNPS	Canadian minimum navigation performance specifications
AMSL	above mean sea level	CMNPSA	Canadian minimum navigation performance specifications airspace
ANS	air navigation system	CMU	communications management unit (data link)
ANSP	air navigation service provider	CNS	communications, navigation, surveillance
AOC	air operator certificate	CNOP	Canadian NOTAM Operating Procedures
AOC	Aviation Operations Centre	CPDLC	controller-pilot data link communications
AOE	airport of entry	C of A	certificate of airworthiness
AOM	airport operations manual	C of R	certificate of registration
APAPI	abbreviated precision approach path indicator	CPL	commercial pilot licence
APREQ	approval request	C.R.C.	Consolidated Regulations of Canada
APRT	airport	CRFI	Canadian Runway Friction Index
APV	approach procedure with vertical guidance	CTA	control area
ARCAL	aircraft radio control of aerodrome lighting	CTAISB	Canadian Transportation Accident Investigation and Safety Board
ARFF	Aircraft Rescue and Fire Fighting	CVFR	controlled VFR
ARP	aerodrome reference point	CWAS	Canada Water Aerodrome Supplement
ASDA	accelerate-stop distance available	CZ	control zone
ASDE	airport surface detection equipment	DA	decision altitude
ASL	above sea level	DADS	digital altimeter display system
ATA	actual time of arrival	DAH	Designated Airspace Handbook (TP 1820E)
ATC	air traffic control	D-ATIS	data link ATIS
ATF	aerodrome traffic frequency	DCL	departure clearance (data link)
ATFM	air traffic flow management	DCPC	direct controller-pilot communications
ATIS	automatic terminal information service	DF	direction finder
ATM	air traffic management	DH	decision height
		DLM	data link mandate
		DME	distance measuring equipment

DND	Department of National Defence	HAA	height above aerodrome
DR	dead reckoning navigation	HAT	height above touchdown
DRCO	dial-up remote communications outlet	HDG	heading
DT	daylight saving time	HF	high frequency
DTW	downwind termination waypoint	HFDL	HF data link
DVFR	defence visual flight rules	Hg	mercury
D-VOLMET	data link VOLMET	HIAL	high intensity approach lighting
E	east	HIRO	high-intensity runway operations
EAD	European AIS Database	HLA	high-level airspace
EASA	European Aviation Safety Agency	HMU	height monitoring unit
EAT	expected approach time	hPa	hectopascal
ECAC	European Civil Aviation Conference	HPL	horizontal protection limit
ECCC	Environment and Climate Change Canada	hr	hour
EET	estimated elapsed time	HSI	horizontal situation indicator
EFC	expected further clearance time	Hz	hertz
ELT	emergency locator transmitter	IAF	initial approach fix
EMAS	engineered material arresting system	IAP	instrument approach procedure
EMI	electromagnetic interference	IAS	indicated airspeed
ERS	Emergency Response Service	IAWP	initial approach waypoint
ESCAT Plan	Emergency Security Control of Air Traffic Plan	ICAO	International Civil Aviation Organization
EST	Eastern Standard Time	IF	intermediate fix
EST (NOTAM)	estimated time (NOTAM)	IFF	identification, friend or foe
ETA	estimated time of arrival	IFR	instrument flight rules
ETD	estimated time of departure	IFSS	international flight service station
ETE	estimated time en route	IFT	instrument flight test
EWH	eye-to-wheel height	ILS	instrument landing system
FAA	Federal Aviation Administration (USA)	IMC	instrument meteorological conditions
FACF	final approach course fix	INF	inland navigation fix
FAF	final approach fix	INS	inertial navigation system
FANS	future air navigation systems	INTXN	intersection
FARs	<i>Federal Aviation Regulations</i> (USA)	IRS	inertial reference system
FATO	final approach and take-off area	IRU	inertial reference unit
FAWP	final approach waypoint	ISA	International Standard Atmosphere
FD	upper level wind and temperature forecast	IWP	intermediate approach waypoint
FDE	fault detection and exclusion	J or JET	high-level airway
FE	flight engineer	JRCC	joint rescue co-ordination centre
FIC	flight information centre	kg	kilogram
FIR	flight information region	kHz	kilohertz
FISE	flight information service en route	KIAS	knots indicated airspeed
FL	flight level	kN	kilonewton
FLAS	flight level allocation scheme	kt	knot
FM	frequency modulation	LAAS	local-area augmentation system
FMC	flight management computer	LAHSO	Land and Hold Short Operations
FMS	flight management system	LAWO	limited aviation weather observation
FP	flight plan	lb	pound
fpm	flash per minute	LDA	landing distance available
FPUID	flight plan unique identifier	LED	light-emitting diode
FPV	first-person view	LEO	low earth orbit
FRT	fixed radius transition	LF	low frequency
FSM	flight system management (data link)	LIAL	low intensity approach lighting
FSS	flight service station	LIDAR	light detection and ranging
FSTD	flight simulation training device	LLA	low-level airspace
FTE	flight technical error	LOC	localizer
GBAS	ground-based augmentation system	LNAV	lateral navigation
GEO	geostationary earth orbit (or geosynchronous equatorial orbit)	LP	localizer performance without vertical guidance
GEO	geosynchronous earth orbit	LPV	localizer performance with vertical guidance
GES	ground earth station	LRNS	long range navigation system
GFA	graphic area forecast	LVOP	low visibility operations plan
GHz	gigahertz	LWIS	limited weather information system
GLONASS	global orbiting navigation satellite system	MA	missed approach
GMU	GPS monitoring unit	MALS	medium intensity approach lighting system
GNSS	global navigation satellite system	MALSF	medium intensity approach lighting system with sequenced flashing lights
GOTA	Gander oceanic transition area	MALSR	medium intensity approach lighting system with runway alignment indicator lights
GP	glide path	MANAB	<i>Manual of Word Abbreviations</i>
GPL	glider pilot licence	MANAIR	<i>Manual of Standards and Procedures for Aviation Weather Forecasts</i>
GPS	global positioning system	MANOBS	<i>Manual of Surface Weather Observations</i>
GPWS	ground proximity warning system	MANOT	missing aircraft notice
GS	glide slope	MAP	missed approach point
GYP	gyroplane pilot permit		

MASPS	minimum aircraft system performance specification	OCL	obstacle clearance limit
MAWP	missed approach waypoint	OCL	oceanic clearance (data link)
mb	millibar	OCS	obstacle clearance surface
MCDU	multipurpose control and display unit	ODALS	omnidirectional approach lighting system
MCTOW	maximum certificated takeoff weight	ODL	opposite direction level
MDA	minimum descent altitude	ODP	obstacle departure procedure
MEA	minimum en route altitude	OEP	oceanic entry/exit point
MEDEVAC	medical evacuation flight	OFZ	obstacle free zone
MEHT	minimum eye height over threshold	OIDS	operational information display system
MEL	minimum equipment list	OKTA	one-eighth
MEO	medium earth orbit	OLS	obstacle limitation surface
METAR	aerodrome routine meteorological report	OPS	obstacle protection surface
MF	mandatory frequency	OTS	organized track system
MF	medium frequency	OTT	over-the-top
MFAU	Military Flight Advisory Unit	PAC	Pacific
MHA	minimum holding altitude	PAL	peripheral station
MHz	megahertz	PAPI	precision approach path indicator
MLAT	multilateration	PAR	precision approach radar
MLS	microwave landing system	PAS	private advisory station
MM	middle marker	PBN	performance-based navigation
MNPS	minimum navigation performance specifications	PCN	pavement classification number (ICAO)
MNPSA	minimum navigation performance specifications airspace	PDC	pre-departure clearance (data link)
MOA	military operations area	PDE	path definition error
MOC	minimum obstacle clearance	PIC	pilot-in-command
MOCA	minimum obstacle clearance altitude	PIREP	pilot weather report
MPa	megapascal	PLR	pavement load rating
mph	miles per hour	PN	prior notice required
MRA	minimum reception altitude	PPC	pilot proficiency check
MRB	magnetic reference bearing	PPL	private pilot licence
MSA	minimum sector altitude	PPR	prior permission required
MSL	Mean Sea Level	PPS	present position symbol
MTCA	military terminal control area	PRM	preferred routes message
MTOW	maximum take-off weight	PRN	pseudorandom noise
MTSAT	multifunctional transport satellite	PSI	pounds per square inch
MU	management unit (data link)	PSR	primary surveillance radar
MVA	minimum vectoring altitude	PSTN	public switched telephone network
MVFR	marginal visual flight rules	PT	procedure turn
MWO	meteorological watch office	PWS	predictive wind shear system
N	north	R	radial
NAARMO	North American Approvals Registry and Monitoring Organization	R	radius
NACp	navigation accuracy category—position	RA	resolution advisory
NADP	noise abatement departure procedure	RAAS	remote aerodrome advisory service
NAR	North American route	RAIM	receiver autonomous integrity monitoring
NASA	National Aeronautics and Space Administration (USA)	RAMO	regional aviation medical officer
NAT	North Atlantic	RASS	remote altimeter setting source
NAT HLA	North Atlantic high-level airspace	Rc	radius of containment
NATO	North Atlantic Treaty Organization	RCAP	<i>Restricted Canada Air Pilot</i>
NAVAID	navigation aid	RCD	departure clearance request (data link)
NCA	Northern Control Area	RCMP	Royal Canadian Mounted Police
NCATS	National Civil Air Transportation System	RCO	remote communications outlet
NDA	Northern Domestic Airspace	REDL	runway edge lights
NDB	non-directional beacon	RENL	runway end lights
NIC	navigation integrity category	RESA	runway end safety area
NM	nautical mile	RETIL	rapid-exit taxiway indicator lights
NOHD	Nominal Ocular Hazard Distance	RF	radius to fix
NO PT	no procedure turn	RLOS	radio line-of-sight
NORDO	no radio	RMI	radio magnetic indicator
NPA	non-precision approach	RNAV	area navigation
NRP	North American Route Program	RNP	required navigation performance
NSE	navigation system error	RNP APCH	required navigation performance approach
NUCp	navigation uncertainty category—position	RNP AR APCH	required navigation performance authorization required approach
NVIS	night vision imaging system	RNPC	required navigation performance capability
NWP	numerical weather prediction	RONLY	receiver only
OAC	oceanic area control centre	RPA	remotely piloted aircraft
OAT	outside air temperature	RPAS	remotely piloted aircraft system
OBST	obstacle	RPP	recreational pilot permit
O/C	observer-communicator	RRTU	radio re-transmit unit
OCA	oceanic control area	RSC	runway surface condition
		RTF	radiotelephony frequency
		RTIL	runway threshold identification lights

RWYCC	runway condition code	TSE	total system error
RVOP	reduced visibility operations plan	TSO	Technical Standard Order
RVR	runway visual range	TSR	terminal surveillance radar
RVSM	reduced vertical separation minimum	TWR	control tower
RWS	reactive wind shear system	UAS	unmanned aircraft system
S	south	UAV	unmanned air vehicle
SA	selective availability	ULP	ultralight pilot permit
SAR	search and rescue	UHF	ultrahigh frequency
SATCOM	satellite communications	UNICOM	universal communications
SATVOICE	satellite voice communications	USB	upper sideband
SBAS	satellite-based augmentation system	UTC	Coordinated Universal Time
SCA	Southern Control Area	VAA	volcanic ash advisory
SCDA	stabilized constant descent angle	VAAC	volcanic ash advisory centre
SDA	Southern Domestic Airspace	VAGS	Visual Alignment Guidance System
SELCAL	selective calling system	VAS	vehicle advisory service
SFOC	special flight operations certificate	VASI	visual approach slope indicator
SID	standard instrument departure	VASIS	visual approach slope indicator system (generic term)
SIF	selective identification feature	VCOA	visual climb over the airport
SIGMET	significant meteorological information	VCS	vehicle control service
SIL	source integrity level	VDF	VHF direction finder
SLOP	strategic lateral offset procedure	VDI	vertical deviation indicator
SM	statute mile	VDL	VHF digital link
SNR	signal-to-noise ratio	VDR	VHF data radio
SOPs	standard operating procedures	VFR	visual flight rules
SOTA	Shannon oceanic transition area	VGSS	voice generator sub-system
SPECI	aerodrome special meteorological report	VHF	very high frequency
SPEC VIS	specified takeoff minimum visibility	VLF	very low frequency
SPI	special position indicator	VLOS	visual line-of-sight
SPP	student pilot permit	VMC	visual meteorological conditions
SSALR	simplified short approach lighting system with runway alignment indicator lights	VNAP	vertical noise abatement procedure
SSALS	simplified short approach lighting system	VNAV	vertical navigation
SSB	single sideband	VNC	VFR navigation chart
SSR	secondary surveillance radar	VOLMET	in-flight meteorological information
STAR	standard terminal arrival	VOR	VHF omnidirectional range
STOL aircraft	short takeoff and landing aircraft	VORTAC	combination of VOR and TACAN
SVFR	special VFR flight	VPA	vertical path angle
SVM	service volume model	VTA	VFR terminal area chart
SVN	satellite vehicle number	VTOL aircraft	vertical takeoff and landing aircraft
T	true	W	west
TA	traffic advisory	WAAS	wide area augmentation system
TAA	terminal arrival area	WAFC	world area forecast centre
TAC	terminal area chart	WAFS	world area forecast system
TACAN	tactical air navigation aid	WMO	World Meteorological Organization
TAF	aerodrome forecast	WP	waypoint
TAS	true airspeed	WPR	waypoint position report(ing)
TATC	Transportation Appeal Tribunal of Canada	WS	wind shear
TAWS	terrain awareness and warning system	zulu (Z)	Coordinated Universal Time
TC	Transport Canada		
TC AIM	<i>Transport Canada Aeronautical Information Manual</i>		
TCCA	Transport Canada Civil Aviation		
TCA	terminal control area		
TCAS I/II	traffic alert and collision avoidance system		
TCH	threshold crossing height		
TCU	terminal control unit		
TDOA	time difference of arrival		
TDZ	touchdown zone		
TDZE	touchdown zone elevation		
TDZL	touchdown zone lighting		
TIBA	traffic information broadcast by aircraft		
TLOF	touchdown and lift-off area		
TMI	track message identification		
TOD	top of descent		
TODA	take-off distance available		
TORA	take-off run available		
TP	Transport Canada publication		
TRA	tower radar area		
TRB	true reference bearings		
TRP	tower radar plan		
TSB	Transportation Safety Board of Canada		

NOTES:

1. The Supplements contain additional abbreviations applicable to aeronautical charts and publications.
2. Abbreviations typical of meteorology are contained in MET 14.0.