



Transport
Canada

Transports
Canada

TP 14371E

Transport Canada

Aeronautical Information Manual

(TC AIM)

GEN—General

OCTOBER 1, 2026

Canada 

Transport Canada Aeronautical Information Manual (TC AIM)

Explanation of Changes

Effective—October 01, 2026

NOTES:

1. Editorial and format changes were made throughout the TC AIM where necessary, and those that were deemed insignificant in nature were not included in the “Explanation of Changes.”
2. The blue highlights in the manual represent the changes described in this section.

GEN

- (1) [GEN 5.1 – Glossary of Aeronautical Terms](#)
Terms were added for Glidepath Intercept Altitude and Precise Final Approach Fix (PFAF).
-

Table of Contents

GEN—General

1

1.0	General Information	1
1.1	Aeronautical Information.....	1
1.1.1	Aeronautical Authority	1
1.1.2	Aeronautical Information Management (AIM)	2
1.1.3	Transport Canada Aeronautical Information Manual (TC AIM)	2
1.1.4	Transport Canada Aeronautical Information Manual (TC AIM) Publication Information	2
1.1.5	NOTAM	3
1.1.6	Aerodromes	3
1.2	Summary of National Regulations.....	3
1.3	Differences with the International Civil Aviation Organization (ICAO) Standards, Recommended Practices and Procedures.....	3
1.3.1	International Civil Aviation Organization (ICAO)'s Procedures for Air Navigation Services—Aircraft Operations (PANS OPS)	3
1.4	Units of Measurement	3
1.4.1	Other Units	3
1.4.2	Geographic Reference	4
1.5	Time System.....	4
1.5.1	Date-Time Group.....	4
1.5.2	Morning and Evening Twilight Charts.....	4
1.5.3	Time Zone.....	6
1.6	Nationality and Registration Marks	6
1.7	V-Speeds.....	6
1.7.1	Conversion Tables	7
1.7.2	RVR Comparative Scale—Feet to Metres.....	8
2.0	Safety.....	8
2.1	Aviation Occupational Health and Safety Program.....	8
2.1.1	General	8
2.1.2	Refusal to Work in Dangerous Situations	9
2.1.3	Delegated Labour Program Officials	9
2.2	Aviation Safety Analysis	9
2.2.1	General	9
2.2.2	Aviation Safety Research and Analysis.....	9
2.2.3	Minister's Observer and Technical Advisor Programs.....	9
2.2.4	Safety Promotion	10
2.3	General Aviation Safety Program	10
3.0	Transportation Safety Board of Canada (TSB).....	10
3.1	Aviation Safety Investigation.....	10
3.2	Definitions.....	10
3.3	Reporting an Aviation Occurrence	11
3.3.1	Accidents.....	11
3.3.2	Mandatory Reportable Incidents	11
3.3.3	Information to Report	11
3.3.4	Other Occurrences.....	12
3.3.5	Contacting the Transportation Safety Board of Canada (TSB).....	12
3.4	Keeping and Preservation of Evidence.....	12
3.5	SECURITAS Program.....	12
3.5.1	How to Report to SECURITAS	12
3.5.2	What to Report to SECURITAS.....	12
3.5.3	Where to Submit a SECURITAS Report	13
3.6	Offices of the Transportation Safety Board of Canada (TSB)	13
4.0	Index of Keywords.....	14

5.0	Miscellaneous	30
5.1	Glossary of Aeronautical Terms	30
5.2	Abbreviations and Acronyms	42
5.3	Legislation Index	48
5.4	Canadian Aviation Regulation Advisory Council (CARAC)	50
5.4.1	General	50
5.4.2	Governing Principles	50
5.4.3	Objective	50
5.4.4	Organizational Structure	50
5.4.4.1	Focus Group	50
5.4.4.2	Special Technical Committee	50
5.4.4.3	Canadian Aviation Regulation Advisory Council (CARAC) Plenary	50
5.4.4.4	Transport Canada Civil Aviation (TCCA) Management Team	50
5.4.4.5	Secretariat	51
5.4.5	Project Resources	51
5.4.6	Communication	51
5.4.7	Information	51
6.0	Aviation Operations Centre (AOC)	51
6.1	Aviation Operations Centre (AOC)—Civil Aviation Accident, Occurrence and Incident Reporting	51
7.0	Civil Aviation Communications Centre	52

GEN—General

1.0 General Information

1.1 Aeronautical Information

1.1.1 Aeronautical Authority

Transport Canada is the responsible aeronautical authority in Canada.

Postal Address:

Assistant Deputy Minister
Transport Canada, Safety and Security
330 Sparks Street
Ottawa ON K1A 0N8

The Transport Canada, Aerodromes and Air Navigation Branch is responsible for the establishment and administration of the Regulations and Standards for the provision of AIS in Canada.

Enquiries relating to regulations and standards for AIS should be addressed to:

Postal Address:

Flight Standards (AARTA)
Transport Canada Civil Aviation
330 Sparks Street
Ottawa ON K1A 0N8

Tel.:1-800-305-2059

Fax:613-952-3298

E-mail: ... TC.Flights.Standards-Normesdevol.TC@tc.gc.ca

TRANSPORT CANADA REGIONAL OFFICES

Transport Canada has five Regional Offices:

Pacific Region

Transport Canada Civil Aviation
Suite 820
800 Burrard Street
Vancouver BC V6Z 2J8

Tel.:1-800-305-2059

Fax:1-855-618-6288

Prairie and Northern Region

Transport Canada Civil Aviation
344 Edmonton Street
Winnipeg MB R3C 0P6

Tel.:1-888-463-0521

Fax:1-800-824-4442

Ontario Region

Transport Canada Civil Aviation
4900 Yonge Street, 4th Floor
Toronto ON M2N 6A5

Tel.:1-800-305-2059

Fax:1-877-822-2129

Quebec Region

Transport Canada Civil Aviation
700 Leigh-Capreol Place
Dorval QC H4Y 1G7

Tel.:1-800-305-2059

Fax:1-855-633-3697

Atlantic Region

Transport Canada Civil Aviation
95 Foundry Street
PO Box 42
Moncton NB E1C 8K6

Tel.:1-800-305-2059

Fax:1-855-726-7495

Figure 1.1—Transport Canada Regions



1.1.2 Aeronautical Information Management (AIM)

NAV CANADA's AIM group is responsible for the collection, evaluation and dissemination of aeronautical information published in the state AIP and associated aeronautical charts. In addition, the AIM group assigns and controls Canadian location indicators and aircraft operating agency designators. (For information on the dissemination of aeronautical information and aeronautical products, see the MAP chapter.)

The AIM group postal address is:

NAV CANADA
Aeronautical Information Management
1611 Tom Roberts Avenue
PO BOX 9824 STN T CSC
Ottawa ON K1G 9Z9

Email:.....aisdata@navcanada.ca

Comments on the Air Navigation System

Any errors, omissions, anomalies, suggestions or comments on the air navigation system can be submitted via any FIC.

To report any concerns about the safety or quality of services provided by NAV CANADA, please contact the local NAV CANADA Site Manager or our Customer Service Centre at:

NAV CANADA
Customer and Stakeholder Services
151 Slater Street Suite 120
Ottawa ON K1P 5H3

Tel. (Toll-free, North America only): 1-800-876-4693
Tel. (Outside North America):..... 1-613-563-5588
E-mail:service@navcanada.ca
Regular hours of operation: 08:00–17:00 EST/EDT

1.1.3 Transport Canada Aeronautical Information Manual (TC AIM)

The TC AIM provides flight crews with reference material useful for aircraft operation in Canadian airspace. It includes those sections of the CARs that are of interest to pilots.

The TC AIM supplements the rules of the air and procedures for aircraft operation in Canadian airspace found in *AIP Canada* (see MAP 2.1).

Throughout the TC AIM, the term “should” implies that TC encourages all pilots to conform with the applicable procedure. The term “shall” implies that the applicable procedure is mandatory because it is supported by regulations.

As much as possible, the rules of the air and ATC procedures have been incorporated into the TC AIM in plain language. Where this was not possible, the CARs have been incorporated verbatim. Editorial liberties have been taken in the deletion of definitions not considered essential to the understanding of the intent of the CARs. This has been done to enhance comprehension of the rules and procedures essential to the safety of flight. The inclusion of these rules and procedures in this format does not relieve persons concerned with aviation from their responsibilities to comply with the *Canadian Aviation Regulations* (CARs), the *Aeronautics Act* and other regulations made under the Act. Where the subject matter of the TC AIM makes reference to the CARs, the relevant provisions are indicated.

Care has been taken to ensure that the information contained in the TC AIM is accurate and complete. Any correspondence concerning the content of the TC AIM is to be referred to:

TC AIM Co-ordinator (AARTT)
Transport Canada
330 Sparks Street
Ottawa ON K1A 0N8

Tel.: 613-993-4502
Fax: 613-952-3298
E-mail: TC.AeronauticalInformationManual-Manueldinformationaeronautique.TC@tc.gc.ca

1.1.4 Transport Canada Aeronautical Information Manual (TC AIM) Publication Information

Individual copies of the TC AIM may be purchased by logging onto the Transport Canada Publication Storefront Web site at <https://tc.canada.ca/en/corporate-services/publications-how-order>. All information with respect to purchases and subscriptions to the TC AIM will be available on this Web site, or by contacting the Order Desk.

This edition of the TC AIM is designed to be as inexpensive as possible since it is intended primarily for student pilots and foreign pilots for use over a short period of time.

The TC AIM is available on the TransportCanada Web site at: <https://www.tc.gc.ca/en/services/aviation/publications/tc-aim.html>.

Amendment Service

This document is intended to provide users of Canadian airspace with current information. A regular amendment service is established to advise individuals of changes to the airspace, regulations or procedures. New editions of the TC AIM are issued twice a year in phase with the ICAO AIRAC schedule. Future issue dates are as follows:

2027-01 – March 18, 2027 2027-02 - September 30, 2027

Each new edition of the TC AIM includes an explanation of changes section that highlights the most significant changes made to the TC AIM and may provide a reference to detailed information on the change.

Distribution

To ensure uninterrupted service, rectify any distribution problems or make a change of address, please contact the TC Publications Order Desk using one of the methods listed below.

Transport Canada Publications Order Desk
Operational Support Services (AAFBD)
2655 Lancaster Road
Ottawa ON K1B 4L5

Tel. (toll-free in North America):1-888-830-4911
.....613-991-4071
Fax: 613-991-1653
E-mail: publications@tc.gc.ca
Web site: <https://tc.canada.ca/en/corporate-services/publications-how-order>

1.1.5 NOTAM

NAV CANADA, International NOTAM Office (NOF), is responsible for the collection, evaluation and dissemination of NOTAMs. A complete description of the Canadian NOTAM system is located in MAP 3.0.

Postal Address

NAV CANADA
International NOTAM Office
Combined ANS Facility
1601 Tom Roberts Avenue
PO Box 9824 Stn. T
Ottawa ON K1G 6R2

Tel.: 613-248-4000
Fax: 613-248-4001
AFTN: CYHQYNYX

1.1.6 Aerodromes

Complete information for all Canadian aerodromes is published in the CFS. ICAO Type A Charts are available from NAV CANADA's AIM group (see MAP 4.2.1 and *AIP Canada* GEN 3.2).

1.2 Summary of National Regulations

Civil aviation in Canada is regulated by the *Aeronautics Act* and the CARs. (See MAP 4.1 to find out where to find the CARs). A legislation index is located in GEN 5.3.

1.3 Differences with the International Civil Aviation Organization (ICAO) Standards, Recommended Practices and Procedures

Differences with ICAO Annexes, which comprise international standards, recommended practices and procedures, are listed in *AIP Canada*, GEN 1.7.

1.3.1 International Civil Aviation Organization (ICAO)'s Procedures for Air Navigation Services—Aircraft Operations (PANS OPS)

(See *AIP Canada* GEN 1.7)

1.4 Units of Measurement

The imperial system of units is used for all information contained on aeronautical charts and publications.

1.4.1 Other Units

Other units are given in the following table and apply to specific situations.

Table 1.1—Other Units of Measurement Used in Aviation

MEASUREMENT	UNITS	SYMBOLS
Altimeter setting	inches of mercury	in. Hg
Altitudes, elevations and heights	feet	ft
Distance used in navigation	nautical miles	NM
Horizontal speed	knots	kt
Relatively short distances	feet	ft
Runway Visual Range (RVR)	feet	ft
Temperature	degrees Celsius	°C
Tire pressure	pounds per square inch megapascals	psi MPa
Vertical speed	feet per minute	ft/min
Visibility	statute miles	SM
Weight	pounds kilograms kilonewtons	lb kg kN
Wind direction, except for landing and takeoff	degrees true	°True
Wind direction observations for landing and takeoff *Degrees true in the NDA	degrees magnetic	°Mag
Wind speed	knots	kt

1.4.2 Geographic Reference

Geographic coordinates are determined using the World Geodetic System 1984 – (WGS-84) geodetic reference datum.

1.5 Time System

Coordinated Universal Time, abbreviated UTC, Zulu (Z) or spoken Universal, is used in Canadian aviation operations and is given to the nearest minute. Time checks are given to the nearest 15 seconds. The day begins at 0000 hours and ends at 2359 hours.

1.5.1 Date-Time Group

(See AIP Canada GEN 2.1)

1.5.2 Morning and Evening Twilight Charts

In the morning, civil twilight begins when the centre of the sun's disc is 6° below the horizon and is ascending, and ends at sunrise, approximately 25 min later. In the evening, civil twilight begins at sunset, and ends when the centre of the sun's disc is 6° below the horizon and is descending, approximately 25 min later.

INSTRUCTIONS

1. Start at the top or bottom of the scale with the appropriate date and move vertically, up or down to the curve of the observer's latitude.
2. From the intersection move horizontally and read the local time.
3. To find the exact zone or standard time, ADD 4 minutes for each degree west of the standard meridian, or SUBTRACT 4 minutes for each degree east of the standard meridian.

The standard meridians in Canada are: AST-60W; EST-75W; CST-90W; MST-105W; PST-120W

Figure 1.2—Beginning of Morning Civil Twilight on Standard Meridian of Time Zone

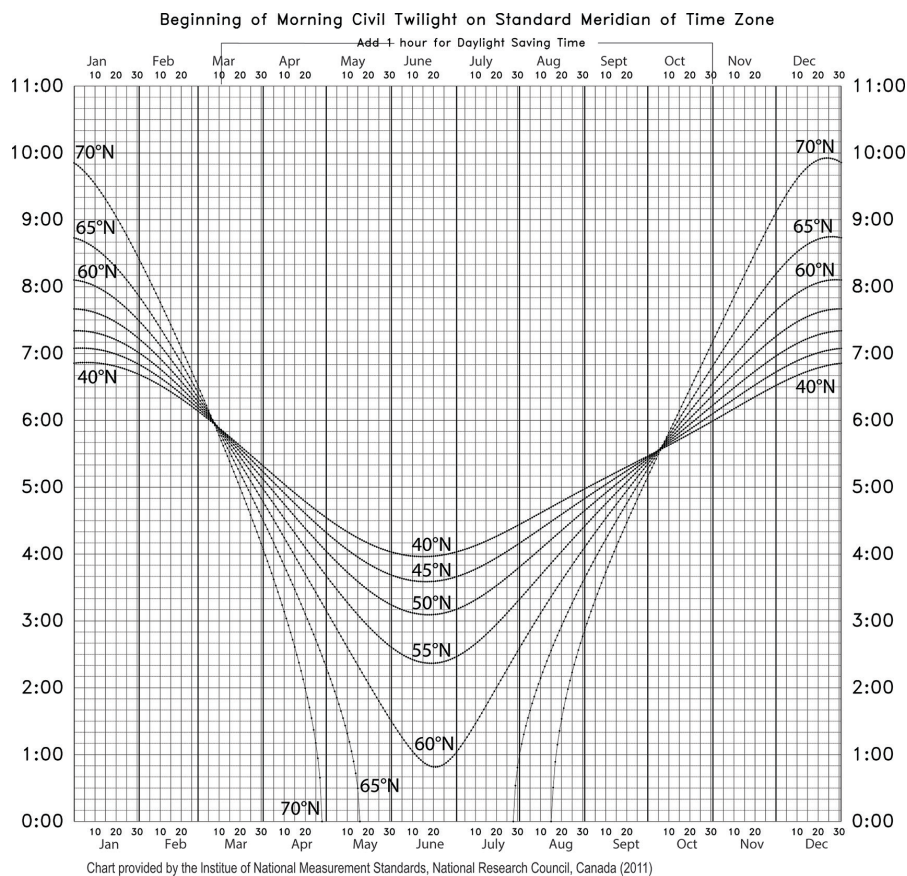
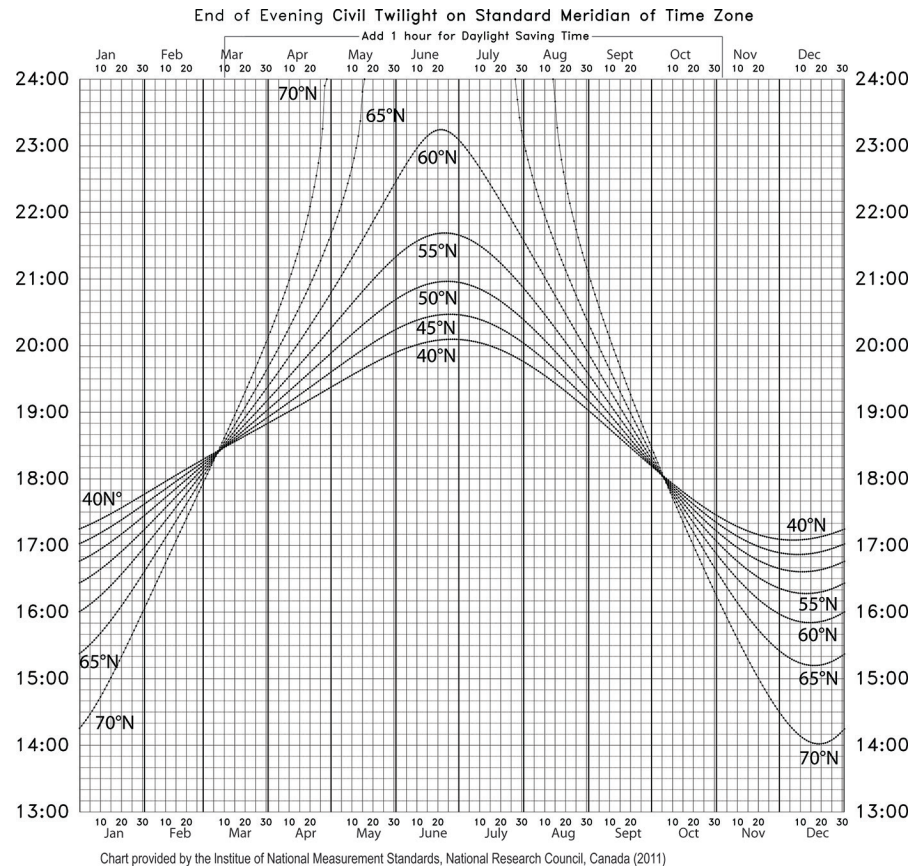


Figure 1.3—End of Evening Civil Twilight on Standard Meridian of Time Zone

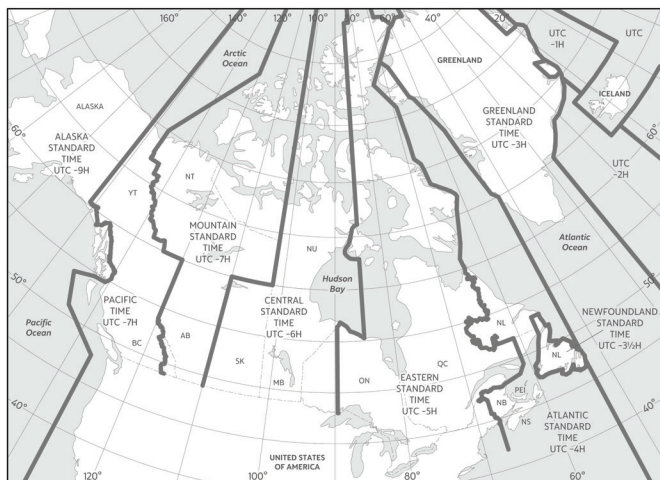
1.5.3 Time Zone

Where daylight saving time is observed in Canada, clocks are advanced one hour. Daylight saving time is in effect from 02:00 local time on the second Sunday in March to 02:00 local time on the first Sunday in November. Locations that observe daylight saving time are indicated in the CFS and the CWAS with the abbreviation DT or the symbol “ $\mathbb{Z}$ ”, in the Aerodrome/Facility Directory, under the subheading REF (references).

Table 1.2—Time Zone Local Times

Time Zone	To Obtain Local Time
Newfoundland	UTC minus 3 1/2 hours (2 1/2 DT)
Atlantic	UTC minus 4 hours (3 DT)
Eastern	UTC minus 5 hours (4 DT)
Central	UTC minus 6 hours (5 DT)
Mountain	UTC minus 7 hours (6 DT)
Pacific	UTC minus 7 hours

Figure 1.4—Time Zone



1.6 Nationality and Registration Marks

(See AIP Canada GEN 2.1.5)

1.7 V-Speeds

Table 1.3—V-Speeds

V_1	Critical engine failure recognition speed *
V_2	Takeoff safety speed
V_{2min}	Minimum takeoff safety speed
V_3	Flap retraction speed
V_a	Design safety speed
V_b	Speed for maximum gust intensity
V_c	Cruise speed
V_d	Diving speed
V_{df}/M_{df}	Demonstrated flight diving speed
V_f	Flap speed
V_{fe}	Maximum flap speed
V_h	Maximum level flight speed at maximum continuous power
V_{le}	Landing gear extended speed
V_{lo}	Maximum landing gear operation speed
V_{mc}	Minimum control speed with critical engine inoperative
V_{mo}/M_{mo}	Maximum operating limit speed
V_{mu}	Minimum unstick speed
V_{no}	Maximum structural cruising speed **
V_{ne}	Never exceed speed
V_r	Rotation speed
V_{ref}	Landing reference speed
V_s	Stalling speed or minimum steady controllable flight speed
V_{s1}	Stalling speed or minimum steady flight speed obtained in a specific configuration
V_{s0}	Stalling speed or minimum steady flight speed in the landing configuration
V_x	Speed for best angle of climb
V_y	Speed for best rate of climb

* This definition is not restrictive. An operator may adopt any other definition outlined in the aircraft flight manual (AFM) of TC type-approved aircraft as long as such definition does not compromise operational safety of the aircraft.

** For older transport category aircraft V_{no} means normal operating limit speed.

1.7.1 Conversion Tables

Table 1.4—Conversion of Millibars to Inches of Mercury

hPa/mb	0	1	2	3	4	5	6	7	8	9
	INCHES									
940	27.76	27.79	27.82	27.85	27.88	27.91	27.94	27.96	27.99	28.02
950	28.05	28.08	28.11	28.14	28.17	28.20	28.23	28.26	28.29	28.32
960	28.35	28.38	28.41	28.44	28.47	28.50	28.53	28.56	28.58	28.61
970	28.64	28.67	28.70	28.73	28.76	28.79	28.82	28.85	28.88	28.91
980	28.94	28.97	29.00	29.03	29.06	29.09	29.12	29.15	29.18	29.20
990	29.23	29.26	29.29	29.32	29.35	29.38	29.41	29.44	29.47	29.50
1000	29.53	29.56	29.59	29.62	29.65	29.68	29.71	29.74	29.77	29.80
1010	29.83	29.85	29.88	29.91	29.94	29.97	30.00	30.03	30.06	30.09
1020	30.12	30.15	30.18	30.21	30.24	30.27	30.30	30.33	30.36	30.39
1030	30.42	30.45	30.47	30.50	30.53	30.56	30.59	30.62	30.65	30.68
1040	30.71	30.74	30.77	30.80	30.83	30.86	30.89	30.92	30.95	30.98
1050	31.01	31.04	31.07	31.09	31.12	31.15	31.18	31.21	31.24	31.27

NOTE:

1 millibar (mb) = 1 hectopascal (hPa)

Table 1.5—Celsius and Fahrenheit Degrees Temperature Scales

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
-45	-49.0	-33	-27.4	-21	-5.8	-9	15.8	3	37.4	15	59.0	27	80.6	39	102.2
-44	-47.2	-32	-25.6	-20	-4.0	-8	17.6	4	39.2	16	60.8	28	82.4	40	104.0
-43	-45.4	-31	-23.8	-19	-2.2	-7	19.4	5	41.0	17	62.6	29	84.2	41	105.8
-42	-43.6	-30	-22.0	-18	-0.4	-6	21.2	6	42.8	18	64.4	30	86.0	42	107.6
-41	-41.8	-29	-20.2	-17	1.4	-5	23.0	7	44.6	19	66.2	31	87.8	43	109.4
-40	-40.0	-28	-18.4	-16	3.2	-4	24.8	8	46.4	20	68.0	32	89.6	44	111.2
-39	-38.2	-27	-16.6	-15	5.0	-3	26.6	9	48.2	21	69.8	33	91.4	45	113.0
-38	-36.4	-26	-14.8	-14	6.8	-2	28.4	10	50.0	22	71.6	34	93.2	46	114.8
-37	-34.6	-25	-13.0	-13	8.6	-1	30.2	11	51.8	23	73.4	35	95.0	47	116.6
-36	-32.8	-24	-11.2	-12	10.4	0	32.0	12	53.6	24	75.2	36	96.8	48	118.4
-35	-31.0	-23	-9.4	-11	12.2	1	33.8	13	55.4	25	77.0	37	98.6	49	120.2
-34	-29.2	-22	-7.6	-10	14.0	2	35.6	14	57.2	26	78.8	38	100.4	50	122.0

Table 1.6—Conversion Factors

TO CONVERT	INTO	MULTIPLY BY
centimetres	inches	0.394
feet	metres	0.305
imperial gallon	U.S. gallon	1.201
imperial gallon	litres	4.546
inches	centimetres	2.540
inches of mercury	pounds per square inch	0.490
kilograms	pounds	2.205
kilograms per litre	pounds per imperial gallon	10.023
kilograms per litre	pounds per U.S. gallon	8.333
kilometres	nautical miles	0.540
kilometres	statute miles	0.621
litres	imperial gallon	0.220
litres	U.S. gallon	0.264
megapascals	pounds per square inch	145.14
metres	feet	3.281
nautical miles	kilometres	1.852
nautical miles	statute miles	1.152
newton	pounds	0.2248
pounds	kilograms	0.454
pounds	newtons	4.448
pounds per imperial gallon	kilograms per litre	0.0998
pounds per square inch	inches of mercury	2.040
pounds per square inch	megapascals	0.00689
pounds per U.S. gallon	kilograms per litre	0.120
statute miles	kilometres	1.609
statute miles	nautical miles	0.868
U.S. gallon	imperial gallon	0.833
U.S. gallon	litres	3.785

1.7.2 RVR Comparative Scale—Feet to Metres**Table 1.7—RVR Comparative Scale: in Feet and Metres**

RVR - FEET	RVR - METRES
500	150
600	175
700	200
1000	300
1200	350
1400	400
2600	800
4000	1200
5000	1500

2.0 Safety**2.1 Aviation Occupational Health and Safety Program**

Employers have a general obligation or duty to ensure that the health and safety of all persons they employ are protected while they are at work. Also, employers have specific duties in regard to each workplace they control and every work activity under their authority that occurs in a workplace that is beyond the employer's control.

No one knows a workplace better than the people who work in it, so Part II of the *Canada Labour Code* gives the workplace parties—employees and employers—a strong role in identifying and resolving health and safety concerns.

2.1.1 General

The TC Aviation Occupational Health and Safety Program began in 1987. Its primary objective is to ensure the health and safety of employees working on board aircraft in operation. This goal is accomplished through the administration, enforcement, and promotion of Part II of the *Canada Labour Code* (the Code) and the pursuant *Aviation Occupational Health and Safety Regulations*. The purpose of Part II of the Code is “to prevent accidents and injury to health arising out of, linked with or occurring in the course of employment to which this part applies”.

The Aviation Occupational Health and Safety Program operates as an extended jurisdiction from the Labour Program of Employment and Social Development Canada (ESDC) and is administered by TC, Safety and Security by virtue of a memorandum of understanding with Employment and Social Development Canada.

For additional information, see www.tc.gc.ca/eng/civilaviation/standards/commerce-ohs-menu-2059.htm.

2.1.2 Refusal to Work in Dangerous Situations

As outlined in subsection 128(1) of the Code, all employees have a legal right to refuse dangerous work and to refuse to work in a place if they have reasonable cause to believe that the use or operation of a machine or thing, the performance of an activity, or a condition existing in the workplace constitutes a danger to themselves or others. Pursuant to subsection 122(1) of the Code: *“‘danger’ means any hazard, condition or activity that could reasonably be expected to be an imminent or serious threat to the life or health of a person exposed to it before the hazard or condition can be corrected or the activity altered”*.

Due to the health and safety risk towards others, pilots are not permitted to refuse to work while in flight (see paragraph 128(2) (a) of the Code). However, pilots are permitted to refuse to work before or after the aircraft is in operation (e.g. at the gate or on the apron). Flight attendants and other on board employees must report any in-flight refusal to work to the pilot-in-command who will in turn decide if the refusal is permitted while in the air. Regardless of whether the refusal is permitted in flight, it will be addressed as soon as the aircraft is on the ground at its next destination.

Once an employee has indicated that they are refusing to work, both they and their employer have specific roles and responsibilities that have been established to assist them in working together to find a solution. Sections 128 and 129 of the Code identify these employee and employer roles and responsibilities as well as the role and responsibility of the delegated labour program official, should their intervention become necessary.

To protect employees' rights, section 147 of the Code states that no employer shall take, or threaten to take, any disciplinary action against an employee who has refused to work in a dangerous situation. It should also be noted that subsection 147.1(1) states that after all the investigations and appeals have been exhausted by the employee who exercised their right to refuse dangerous work, the employer may take disciplinary action against that employee provided the employer can demonstrate that the employee has willfully abused their rights.

2.1.3 Delegated Labour Program Officials

The Aviation Occupational Health and Safety Program Headquarters provides guidance and assistance to regional delegated labour program officials who conduct inspections, investigations, and promotional visits to ensure that air operators are committed to the health and safety of their employees.

Delegated labour program officials may be reached during the day at their workplace by using the “How to Reach Us” page on the TC Aviation Occupational Health and Safety Web site: <www.tc.gc.ca/eng/civilaviation/standards/commerce-ohs-reach-us-menu-2116.htm>.

To ensure 24-hr service to the aviation community, in urgent situations or after working hours, a delegated labour program official may be reached through the Aviation Operations Centre (AVOPS) at: <<https://www.tc.gc.ca/eng/civilaviation/opssvs/emergencies-incidentreporting-menu.htm>>.

2.2 Aviation Safety Analysis

2.2.1 General

The Aviation Safety Analysis Division in the Policy and Regulatory Services Branch is responsible for monitoring and evaluating the level of safety within the National Civil Air Transportation System (NCATS) by:

- (a) monitoring and evaluating all facets of the system;
- (b) reviewing and analyzing accident and incident data, as well as other safety-related information;
- (c) assessing risk and providing risk management advice; and
- (d) preparing and coordinating emergency response to national or international emergencies affecting aviation.

2.2.2 Aviation Safety Research and Analysis

One of the objectives of the Aviation Safety Research and Analysis unit is to produce safety intelligence. This is information about hazards in the National Civil Air Transportation System (NCATS) that allows managers in Civil Aviation to understand the hazards and risks present in the elements of the system they oversee. Aviation safety hazards and trends are proactively identified, analyzed, and evaluated in order to produce a mix of special studies and routine standard products. This strategic analytical capability supports the development of mitigation and prevention strategies necessary for managing risks. These strategies feed into policy development, regulatory framework, and Civil Aviation operational areas.

2.2.3 Minister's Observer and Technical Advisor Programs

Key aspects of obtaining safety intelligence are the Minister's Observer and Technical Advisor Programs. While it is the TSB's mandate to advance transportation safety by conducting investigations into occurrences, the Minister's observer/technical advisor plays an essential role by:

- (a) obtaining timely, factual information from an on-going investigation;
- (b) advising the Minister of significant regulatory factors;
- (c) identifying deficiencies that require immediate coordination of corrective actions;
- (d) being TC's support to an aviation occurrence investigation; and
- (e) providing safety intelligence to senior managers and the Minister to help support their decision making.

As a member of ICAO, Canada enjoys certain rights and accepts certain responsibilities in relation to accidents either occurring in another State, or where another State has an interest in an accident that occurs in Canada.

These responsibilities are detailed in Article 26 of ICAO's *Convention on International Civil Aviation*, which imposes an obligation on the State in which the aircraft accident occurs to institute an inquiry in accordance with ICAO procedures; and

Article 37, which provides for the standards and recommended practices (SARPS) for aircraft accident investigation, which are detailed in Annex 13 to the Convention.

In the event of an accident that occurs outside Canada and involves a Canadian-registered aircraft, or an aircraft or significant component manufactured in Canada, Canada has the right to appoint an accredited representative. Under Annex 13, this duty falls to the TSB. TC and other Canadian interests may appoint technical advisors to support the accredited representative.

In the event of a domestic occurrence, the *Canadian Transportation Accident Investigation and Safety Board Act* (CTAISB Act) contains provisions that permit a party of direct interest to participate as an observer in a TSB investigation if the Board determines that it is appropriate.

If the TSB decides not to investigate, in accordance with subsection 14(2) of the CTAISB Act, TC can make a formal request to the TSB to investigate. Subsection 14(4) of the CTAISB Act also states:

“Nothing [...] prevents a department from commencing an investigation into or continuing to investigate a transportation occurrence for any purpose other than that of making findings as to its causes and contributing factors, or from investigating any matter that is related to the transportation occurrence and that is not being investigated by the Board[...].”

In the event of an occurrence involving a Canadian civil aviation certificate holder, Civil Aviation must determine, on behalf of the Minister, as quickly as possible, whether or not the certificate holder continues to meet the certificate's conditions of issue.

2.2.4 Safety Promotion

As part of Civil Aviation's wider risk mitigation strategy, TC communicates safety information to promote the adoption of practices known to be effective at mitigating risk and to educate the wider aviation community on current and emerging hazards.

Promotional and educational products are developed, as appropriate, to support Civil Aviation's programs and initiatives for the benefit of the Canadian aviation industry. These programs and initiatives aim to enhance aviation safety awareness and accident prevention. For more information about these programs and initiatives, please go to <<https://tc.canada.ca/en/campaigns>>. The *Aviation Safety Letter* (ASL), Civil Aviation's quarterly online newsletter, includes articles that address aviation safety from all perspectives, such as safety insight derived from accidents and incidents, regulatory updates, as well as safety information tailored to the needs of pilots, AMEs, certificate holders, and all other interested individuals within the aviation community. Readers can subscribe to the ASL e-Bulletin notification service to receive e-mails that announce the release of each new issue of the ASL and include a link to the ASL Web page. To register for this service, please go to <<https://tc.canada.ca/en/aviation/publications/aviation-safety-letter>> and follow the appropriate steps. Those who prefer a printed copy can order a print-on-demand version (black and white) through TC's Publications Order Desk by calling 1-888-830-4911 or e-mailing <publications@tc.gc.ca>.

2.3 General Aviation Safety Program

The General Aviation Safety Campaign transitioned to a program in June 2020. The purpose is to reduce the number of fatal accidents through a non-regulatory, consensus-based, data-driven approach by engaging with the general aviation community to find shared solutions to safety issues and concerns by:

- (a) promoting safety through promotional and educational materials;
- (b) promoting a national program for the development and delivery of safety seminars and pilot recurrent training programs;
- (c) encouraging a collaborative approach and maintaining a visible presence within the GA community; and
- (d) reducing the total number of GA accidents by:
 - (i) identifying and addressing accident trends;
 - (ii) identifying root causes; and
 - (iii) recommending solutions that can reduce the probability of similar accidents from reoccurring.

NOTE:

For more information on the General Aviation Safety Program, go to <<https://tc.canada.ca/en/campaigns/general-aviation-safety-campaign>> or contact our Safety Program Team at <TC.GeneralAviation-AviationGenerale.TC@tc.gc.ca>.

3.0 Transportation Safety Board of Canada (TSB)

3.1 Aviation Safety Investigation

The purpose of an aviation safety investigation into an aircraft accident or incident is to prevent a recurrence; it is not to determine or assign blame or liability. The TSB, established under the *Canadian Transportation Accident Investigation and Safety Board Act* (CTAISB Act), is responsible for investigating all aviation occurrences in Canada involving civil aircraft registered both in Canada and abroad. A team of investigators is on 24-hr standby. The following text is mainly taken from the recently updated *Transportation Safety Board of Canada Regulations*. The complete text of both the CTAISB Act as well as the updated Regulations can be found on the Department of Justice Web site.

3.2 Definitions

Under the CTAISB Act, “*aviation occurrence*” means

- (a) any accident or incident associated with the operation of an aircraft, and
- (b) any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident described in paragraph (a).

The following definitions are taken from the *Transportation Safety Board of Canada Regulations*.

“Collision” means an impact, other than an impact associated with normal operating circumstances, between aircraft or between an aircraft and another object or terrain.

“Dangerous goods” has the same meaning as in section 2 of the *Transportation of Dangerous Goods Act, 1992*.

“Operation” means the activities for which an aircraft is used from the time any person boards the aircraft with the intention of flight until they disembark.

“Risk of collision” means a situation in which an aircraft comes so close to being involved in a collision that a threat to the safety of any person, property or the environment exists.

“Serious injury” means:

- (a) a fracture of any bone, except simple fractures of fingers, toes or the nose;
- (b) lacerations that cause severe hemorrhage or nerve, muscle or tendon damage;
- (c) an injury to an internal organ;
- (d) second or third degree burns, or any burns affecting more than 5% of the body surface;
- (e) a verified exposure to infectious substances or injurious radiation; or
- (f) an injury that is likely to require hospitalization.

3.3 Reporting an Aviation Occurrence

The owner, operator, pilot-in-command, any crew member of the aircraft and any person providing air traffic services that have direct knowledge of an occurrence must report the following aviation occurrences to the Board if they result directly from the operation of an aircraft.

3.3.1 Accidents

In the case of an accident:

- (a) a person is killed or sustains a serious injury as a result of:
 - (i) being on board the aircraft,
 - (ii) coming into direct contact with any part of the aircraft, including parts that have become detached from the aircraft, or
 - (iii) being directly exposed to jet blast, rotor down wash or propeller wash,
- (b) the aircraft sustains structural failure or damage that adversely affects the aircraft’s structural strength, performance or flight characteristics and would normally require major repair or replacement of any affected component, except for:
 - (i) engine failure or damage, when the damage is limited to the engine, its cowlings or accessories, or
 - (ii) damage limited to propellers, wing tips, antennae, tires, brakes, fairings or small dents or puncture holes in the aircraft’s skin, or
- (c) the aircraft is missing or inaccessible.

3.3.2 Mandatory Reportable Incidents

In the case of an incident involving an aircraft having a maximum certificated take-off weight greater than 2 250 kg, or of an aircraft being operated under an air operator certificate issued under Part VII of the *Canadian Aviation Regulations*:

- (a) an engine fails or is shut down as a precautionary measure,
- (b) a power train transmission gearbox malfunction occurs,
- (c) smoke is detected or a fire occurs on board,
- (d) difficulties in controlling the aircraft are encountered owing to any aircraft system malfunction, weather phenomena, wake turbulence, uncontrolled vibrations or operations outside the flight envelope,
- (e) the aircraft fails to remain within the intended landing or take-off area, lands with all or part of the landing gear retracted or drags a wing tip, an engine pod or any other part of the aircraft,
- (f) a crew member whose duties are directly related to the safe operation of the aircraft is unable to perform their duties as a result of a physical incapacitation which poses a threat to the safety of persons, property or the environment,
- (g) depressurization of the aircraft occurs that requires an emergency descent,
- (h) a fuel shortage occurs that requires a diversion or requires approach and landing priority at the destination of the aircraft,
- (i) the aircraft is refuelled with the incorrect type of fuel or contaminated fuel,
- (j) a collision, a risk of collision or a loss of separation occurs,
- (k) a crew member declares an emergency or indicates an emergency that requires priority handling by air traffic services or the standing by of emergency response services,
- (l) a slung load is released unintentionally or as a precautionary or emergency measure from the aircraft, or
- (m) any dangerous goods are released in or from the aircraft.

3.3.3 Information to Report

The report must contain the following information:

- (a) the type, model, nationality and registration marks of the aircraft;
- (b) the name of the owner, operator, pilot-in-command and, if applicable, hirer of the aircraft;
- (c) the last point of departure and the intended destination of the aircraft, including the date and time of the departure;
- (d) the date and time of the occurrence;
- (e) the name of the person providing air traffic services related to the occurrence;
- (f) the number of crew members, passengers and other persons involved in the occurrence and the number of those who were killed or sustained serious injuries as a result of the occurrence;

- GEN**
- (g) the location of the occurrence by reference to an easily defined geographical point, or by latitude and longitude;
 - (h) a description of the occurrence and the extent of any resulting damage to the environment and to the aircraft and any other property;
 - (i) a list of any dangerous goods carried on board or released from the aircraft, including the shipping name or UN number and consignor and consignee information;
 - (j) if the aircraft is missing or inaccessible:
 - (i) the last known position of the aircraft by reference to an easily defined geographical point, or by latitude and longitude, including the date and time that the aircraft was at that position, and
 - (ii) the actions taken or planned to locate or gain access to the aircraft;
 - (k) a description of any action taken or planned to protect persons, property and the environment;
 - (l) the name and title of the person making the report and the phone number and address at which they can be reached; and
 - (m) any information specific to the occurrence that the Board requires.

The person making the report must send to the Board as soon as possible and by the quickest means available, all the information required that is available at the time of the occurrence; and the remainder of that information as soon as it becomes available within 30 days after the occurrence.

3.3.4 Other Occurrences

Any other incident indicative of a deficiency or discrepancy in the Canadian air transportation system may be reported in writing to the TSB. Sufficient details concerning the incident should be provided to enable the identification of action required to remedy the deficiency or discrepancy.

3.3.5 Contacting the Transportation Safety Board of Canada (TSB)

Aviation occurrences are to be reported to a regional TSB office, using the telephone numbers listed in GEN 3.6.

For Canadian-registered aircraft operating outside of Canada, in addition to the reporting required by the state of occurrence, a report shall be made to the TSB regional office nearest to the company's headquarters or, for private aircraft, nearest to the aircraft's home base.

3.4 Keeping and Preservation of Evidence

Every person having possession of or control over evidence relating to a transportation occurrence must keep and preserve the evidence unless the Board provides otherwise. This is not to be construed as preventing any person from taking the necessary measures to ensure the safety of any person, property or the environment. Any person who takes these measures must,

to the extent possible in the circumstances and before taking those measures, record the evidence by the best means available and advise the Board of their actions.

3.5 SECURITAS Program

The SECURITAS program provides a means for individuals to report incidents and potentially unsafe acts or conditions relating to the Canadian transportation system that would not normally be reported through other channels. It should be noted that this multi-modal, confidential safety reporting system replaces the Confidential Aviation Safety Reporting Program (CASRP).

Each report is assessed by SECURITAS analysts. When a reported concern is validated as a safety deficiency, the TSB normally forwards the information, often with suggested corrective action, to the appropriate regulatory authority, or in some cases, the transportation company, organization or agency. No information will be released that could reasonably be expected to reveal the reporter's identity without the reporter's written consent.

3.5.1 How to Report to SECURITAS

SECURITAS is primarily concerned with unsafe acts and conditions relating to commercial and public transportation systems. When contacting SECURITAS, ensure the following is included in your message:

- (a) your name, address and phone number
- (b) your profession and experience
- (c) your involvement in the unsafe situation being reported
- (d) where else you may have reported this unsafe situation or safety concern
- (e) complete identification of the aircraft or related facility/equipment
- (f) the name of the owner/operator of the equipment

Also, please describe the unsafe act or safety concern.

For example:

- (a) How was the unsafe act/condition discovered?
- (b) If you are describing an event, tell SECURITAS
 - (i) what happened;
 - (ii) where it happened;
 - (iii) when it happened (the date and the local time); and
 - (iv) why you think it happened.
- (c) What actions/inactions resulted, or could have resulted?
- (d) How do you think the situation could be corrected?

3.5.2 What to Report to SECURITAS

These are some examples of the types of situations that could affect air transportation safety and that your report might help correct.

Unsafe conditions:

- (a) chronic lack of repair of aircraft, poor maintenance practices
- (b) unsafe runway or aerodrome conditions
- (c) inadequate or poor air traffic services in a particular area
- (d) poor reception of navigation signals, weak radio coverage, inadequate weather services
- (e) errors in aeronautical publications: unsafe procedures published in manuals of instructions for pilots, cabin crew, ground crew, aircraft maintenance or air traffic services

Unsafe procedures and practices:

- (a) routinely descending below minimum en route altitude or approach in IMC
- (b) non-compliance with airworthiness directives, minimum equipment list
- (c) pilots flying in excess of regulatory flight-time limits
- (d) unsafe aircraft circuit procedures and/or communications
- (e) air traffic control practices that could jeopardize the safety of flight, e.g. use of non-standard phraseology, compromising separation criteria, inadequate manning and supervision
- (f) unsafe cabin baggage stowage procedures, unsafe passenger seating or cargo securing arrangements
- (g) aircraft maintenance procedures not completed correctly but signed off
- (h) shortcuts in following checklist procedures
- (i) crew scheduling problems: inadequate crew composition, unqualified crew, inadequate crew rest
- (j) scheduling personnel who are not professionally or medically qualified for the assigned duties
- (k) the use of unapproved parts, time-expired equipment

3.5.3 Where to Submit a SECURITAS Report

To submit a report, contact SECURITAS at:

SECURITAS
PO Box 1996, Station B
Gatineau QC J8X 3Z2

Tel.: 1-800-567-6865
Fax: 819-994-8065
E-mail: securitas@tsb-bst.gc.ca

3.6 Offices of the Transportation Safety Board of Canada (TSB)**HEADQUARTERS:**

Place du Centre, 4th Floor
200 Promenade du Portage
Gatineau QC K1A 1K8

Toll-free (within Canada): 1-800-387-3557
Toll: 819-994-3741
TDD: 819-953-7287
E-mail: airops@tsb-bst.gc.ca

REGIONAL OFFICES (AIR)**TSB—Pacific**

Regional Office Administration, TSB-AIR
4-3071 No 5 Road
Richmond BC V6X 2T4

Toll-free (within Canada): 1-800-387-3557
Toll: 604-202-2400
E-mail: airnotifications.vancouver@tsb-bst.gc.ca

TSB—Western

Regional Office Administration, TSB-AIR
17803-106A Avenue
Edmonton AB T5S 1V8

Toll-free (within Canada): 1-800-387-3557
E-mail: airnotifications.edmonton@tsb-bst.gc.ca

TSB—Central

Regional Office Administration, TSB-AIR
335-550 Century Street
Winnipeg MB R3H 0Y1

Toll-free (within Canada): 1-800-387-3557
Toll: 204-983-5548
E-mail: airnotifications.winnipeg@tsb-bst.gc.ca

TSB—Ontario

Regional Office Administration, TSB-AIR
23 Wilmot Street East
Richmond Hill ON L4B 1A3

Toll-free (within Canada): 1-800-387-3557
Toll: 905-771-7676
E-mail: airnotifications.toronto@tsb-bst.gc.ca

TSB—Quebec (Dorval)

Regional Office Administration, TSB-AIR
185 Dorval Avenue, Suite 403
Dorval QC H9S 5J9

Toll-free (within Canada): 1-800-387-3557
Toll: 514-633-3246
E-mail: airnotifications.montreal@tsb-bst.gc.ca

TSB—Atlantic

Regional Office Administration, TSB-AIR
150 Thorne Avenue
Dartmouth NS B3B 1Z2

Toll-free (within Canada): 1-800-387-3557
Toll: 902-483-3341
E-mail: airnotifications.dartmouth@tsb-bst.gc.ca

4.0 Index of Keywords

A

- Abbreviations – Aviation Forecasts..... MET 15.0
- Abbreviations and Acronyms GEN 5.2
- Abnormal Operation of Navigation Aids, Pilot Reporting of.....COM 3.4
- Abnormally High Altimeter Settings.....AIR 1.5.9
- Aeronautical Fixed Service (AFS).....MAP 3.1, 3.5, RAC 3.3
 - Calibration ofRAC Fig. 9.1, AIR 1.5.2
 - Downdraft and Turbulence.....AIR 1.5.7
 - Effect of Mountains.....AIR 1.5.6
 - Incorrect Setting.....AIR 1.5.3
 - Major Errors of.....AIR 1.5.4
 - Pressure.....AIR 1.5
 - Pressure Drop.....AIR 1.5.8
 - Setting Region.....RAC 2.10, Fig. 2.10
 - Standard Pressure Region.....RAC 2.11, Fig. 2.10, AIR 1.5.5
 - Temperature Correction.....RAC Fig. 9.1, AIR 1.5.4
- ACAS/TCAS.....COM 9.0
- ACAS II and Transponder EquipageRAC 11.7.11
- Accident reporting.....GEN 3.3
 - SECURITAS ProgramGEN 3.5
- Accuracy, Availability and Integrity of Navigation AidsCOM 4.2
- Acknowledgement of Clearances – VFR.....RAC 5.2
- Acronyms and AbbreviationsGEN 5.2
- ADIZ (Air Defence Identification Zone).....RAC 2.13, 3.8
- ADS-B.....COM 7.3
- ADS-C.....COM 3.10
- Advance Notice of Intent in Minimum Weather Conditions.....RAC 9.5
- Advisory Airspace.....RAC 2.8.6
- Advisory forecasts.....MET 7.2
- Aerobatic Flight.....RAC 1.9
- Aerodromes and airports.....AGA 2.0
 - ARCAL (Aircraft Radio Control of Aerodrome Lighting)AGA 7.14
 - ATF (Aerodrome Traffic Frequency) ..RAC 4.5.5, 4.5.6
 - Authority.....AGA 1.1.1
 - BeaconAGA 7.2
 - CertificationAGA 2.3
 - Design Criteria, Runway.....AGA 3.1
 - Directory.....AGA 1.3
 - DND (Snow Removal and Ice Control).....AGA 1.1.4
 - Lighting.....AGA 7.0
 - Maintenance
 - Transport Canada.....AGA 2.3.3
 - Obstacle Charts (ICAO Type A).....MAP 4.2.1
 - Operator Responsibilities.....AGA 2.3.4
 - PNR (Prior Notice Required).....AGA 2.2
 - PPR (Prior Permission Required)AGA 2.2
 - Private-use CertificateAGA 2.2
 - Public-use Certificate.....AGA 2.2
 - Registration.....AGA 2.1
 - Runway Characteristics.....AGA 3.0
 - TAF (Forecasts).....MET 7.0
 - From AWOS SitesMET 7.5
 - National VariationsMET 7.3
 - Uncontrolled Procedures (IFR).....RAC 9.13
 - Use, International Flights.....AGA 1.2
- Aeromedical Factors.....AIR 3.2
- Aeronautical
 - Assessment.....AGA 6.3
 - Authority.....GEN 1.1.1
 - Charts for Visual Flight.....MAP 4.2.1
 - Ground LightsAGA 1.4
- Aeronautical Information.....GEN 1.1
 - AIM (Aeronautical Information Management).....GEN 1.1.2
 - AIRAC CanadaMAP 2.4
 - Canada Flight Supplement.....MAP 2.5.3
 - Charts and Publications for International Flights.....MAP 5.0
 - CircularMAP 2.3
 - Collection.....MAP 1.0
 - ICAO Type A Charts.....MAP 4.2.1
 - IFR.....MAP 2.6
 - Manual (TC AIM)GEN 1.1.3
 - NOTAMMAP 3.0
 - Procurement of Charts and PublicationsMAP 4.0
 - Publication, Aeronautical Information
 - AIP Canada.....MAP 2.1
 - VFR.....MAP 2.5
- Aeronautical Terms, Glossary.....GEN 5.1
 - Aeronautics Act and Canadian Air Regulations, Legislative IndexGEN 5.3
- Aiding Persons in Distress.....SAR 2.4
- AIP Canada.....MAP 2.1
 - AIC (Aeronautical Information Circular)MAP 2.3
 - Supplements.....MAP 2.2
- Airborne Collision Avoidance System (ACAS).....COM 9.0
- AIRAC Canada.....MAP 2.4
- Air Routes and Airways Designation.....COM 5.5
- Air Time and Flight Time.....AIR 4.1
- Air Traffic and Advisory Services.....RAC 1.1
- Air Traffic Services, Services Other ThanRAC 1.2
- Aircraft
 - Aviation Safety InvestigationGEN 3.1
 - Aircraft Identification, Marking, Registration and Insurance.....LRA 4.0
 - Airworthiness.....LRA 5.0
 - Airworthiness ANNEX.....LRA 9.0
 - ARCAL (Radio Control of Aerodrome Lighting)AGA 7.14
 - Categories.....RAC 9.21
 - Change of Ownership – Canadian-Registered.....LRA 4.4
 - Contamination (Frost, Ice or Snow)
 - In Flight.....AIR 2.12.3
 - On ground.....AIR 2.12.2
 - Design Requirements.....LRA 5.2
 - Emergency Assistance.....SAR 4.0
 - First Aid Kits on Privately Owned and Operated Aircraft.....AIR 4.13
 - IdentificationLRA 4.2

– Import/Export.....	LRA 4.6, 4.7	– Southern, Northern and Arctic Control Areas	RAC Fig. 2.4
– Liability Insurance.....	LRA 4.8	Airways, low-level – LF/MF, VHF/UHF	RAC 2.7.1
– Load rating.....	AGA 3.12	Airworthiness	
– Nationality and Registration Marks	GEN 1.6, LRA 4.3	– Aircraft.....	LRA 5.0
– Navigational Equipment, Interference with.....	COM 4.4	– ANNEX	LRA 5.8
– Operations – Uncontrolled Aerodromes	RAC 4.5	– Annual Airworthiness Information Report.....	LRA 5.5
– Registration, Initial	LRA 4.5	– Flight Authority	LRA 5.3
– Rescue and Fire Fighting (ARFF).....	AGA 8.0	Airworthiness Directives (ADs)	LRA 5.7
– Speed Limit	RAC 2.5.2	– Availability of	LRA 5.7.2
– Technical Records.....	LRA 5.6.3	– Schedule and Compliance Records.....	LRA 5.7.3
Aircraft Contamination in Flight.....	AIR 2.12.3	AIS (Aeronautical Information Services)	GEN 1.1.2
Aircraft Contamination on the Ground.....	AIR 2.12.2	AIM (Aeronautical Information Management)	GEN 1.1.2
Aircraft Load Rating (ALR)	AGA 3.12	Alcohol.....	AIR 3.9
Aircraft Movement Surface Condition Report (AMSCR).....	AIR 1.6.4	Alerting Devices and Circuit Breakers	AIR 4.11
Aircraft Parachute System	GEN 5.1	ALR (Aircraft Load Rating)	AGA 3.12
Aircraft Rescue and Fire Fighting (ARFF).....	AGA 8.0	Alternate Aerodrome, Requirements for IFR Flight.....	RAC 3.14
– Hours of Availability	AGA 8.2	Altimeter	
– Classification System.....	AGA 8.3	Altitude	
– ARFF Standby Request	AGA 8.4	– And Direction of Flight	RAC 8.7.2
AIREP (Meteorological Report)	NAT 1.15	– Area Minimum Altitude (AMA)	RAC 8.6.1
Airmanship	AIR 1.1	– Correction Chart	RAC Fig. 9.1
– Flight Operations.....	AIR 2.0	– IFR Minimum	RAC 8.5, 8.6.1
– Low Flying	AIR 2.4	– Minimum Holding.....	RAC 10.7
AIRMET	MET 1.3.6, 5.0	– Report	NAT 1.16
Arrival Procedures – IFR.....	RAC 9.0	Anti-icing Additives, Fuel.....	AIR 1.3.3
Airport		Appeals – Transportation Appeal Tribunal of Canada (TATC).....	LRA 6.5
– ASDE (Surface Detection Equipment)	COM 7.1	Approach	
– Airport Radio (APRT RDO).....	RAC 1.2.2	– Approach Lighting System - ALSF-2, LIAL, ODALS, MALSF, MALS, MALSR, SSALR, SSALS	AGA 7.5.1, 7.5.2, RAC 9.19.2.8
– Airside Signs.....	AGA 5.8	– Approach Lighting System with Sequenced Flashers - CAT II (ALSF - 2)	AGA 7.5.2, RAC 9.19.2.8
– Bird Hazard	AGA 1.1.5	– Ban	RAC 9.19.2
– Certificate	AGA 2.4	– Contact	RAC 9.6.1
– Certification	AGA 2.3, 2.3.5, 2.3.6	– From an Intermediate Fix	RAC 9.16
– Collaborative Decision Making (A-CDM)....	AGA 10.0	– PAPI.....	AGA 7.6.3
– Information Signs	AGA 5.8.2	– PAR (Precision Radar)	COM 7.1, RAC 9.8.4
– Operations	RAC 4.0	– Position Reports – Controlled Airports.....	RAC 9.9
– Controlled Airports, Departure Procedures.....	COM 3.8	– Simplified Short Approach Lighting System (SSALS)	AGA 7.5.1, RAC 9.19.2.8
– Snow Removal and Ice Control	AGA 1.1.4	– Simplified Short Approach Lighting System with Runway Alignment Indicator Lights (SSALR)	AGA 7.5.2, RAC 9.19.2.8
– Uncontrolled Aerodromes	RAC 4.5	– Straight-in	RAC 9.15
– Zoning Regulations	AGA 4.3	– Visual.....	RAC 9.6.2
– Airspace Classification	RAC 2.8	– Approach Procedures with Vertical Guidance (APV)	COM 5.4.2
– Advisory	RAC 2.8.6	Apron Advisory Service	RAC 1.2.4
– Canadian Domestic/Northern and Southern Domestic.....	RAC 2.2, Fig. 2.1	ARCAL (Aircraft Radio Control of Aerodrome Lighting).....	AGA 7.14
– Classification of.....	RAC 2.8	Arctic Territories.....	RAC 1.1.3
– High- and Low-Level.....	RAC 2.3	Area Navigation (RNAV).....	COM 5.0
– High-Level Controlled	RAC 2.6	– Fixed RNAV Routes.....	RAC 11.4.4
– Joint Use	RAC 2.8.6	– Mandatory IFR Routes (Including RNAV)	RAC 11.4.3
– Low-Level Controlled.....	RAC 2.7	Areas	
– NAT MNPSA (North Atlantic Minimum Navigation Performance – Specifications) Between FL 285 and FL 420	RAC Fig.1.2,	– Gander Oceanic Control	NAT Fig. 1.1
– Other Divisions.....	RAC 2.9		
– Requirements and Procedures.....	RAC 2.0		
– Restricted	RAC 2.8.6		

– Mountainous	RAC 2.12, Fig. 2.11
– RVSM Transition Area.....	RAC Fig. 12.3
– Southern, Northern and Arctic Control Areas	RAC Fig. 2.4
– Transition.....	RAC 2.7.5
Arresting Systems, Military Aircraft.....	AGA 9.1
Arrival	
– Procedures – Controlled Airports	RAC 4.4
– Traffic Circuit Procedures	
– Uncontrolled Aerodromes, VFR	RAC 4.5.2
– Report – Contents.....	RAC 3.12.1
ASDA (Accelerate Stop Distance Available)	AGA 3.10
ATC (Air Traffic Control)	
– Assignment of Altitudes	RAC 8.6
– Clearances, Instructions and Information	RAC 1.6
– Flight Priority	RAC 1.7
ATIS (Automatic Terminal Information Service)	RAC 1.3, 4.2.1
– Broadcasts	RAC 1.3, 7.2, 9.1
– METAR AUTO/SPECI AUTO Reports	MET 8.5
Automatic Flight Control Guidance System.....	COM 4.10.7
Automatic Landing (Autoland) Operations	COM 4.10.7
Aviation	
– Automated Reports – Other.....	MET 8.6
– Document Booklet.....	LRA 1.2
– Fuels	AIR 1.3
– Language Proficiency.....	LRA 1.3
– Medical Review Board	LRA 2.4
– METAR (Routine Weather Report)	MET 5.14
– Occurrence, Reporting an.....	GEN 3.3
– Recreational	AIR 4.7 to 4.10
– Safety.....	GEN 2.0
– Weather Briefing Service (AWBS)	MET 1.1.3
– Weather Information Service	MET 1.1.3
– Weather Reports/Charts.....	MET 3.2.2, 3.2.3
AWOS (Automated Weather Observation Systems)	MET 1.2.4, 8.5
– actual weather information/reports/charts ..	MET 1.2.4
– METAR SPECI/AUTO/LWIS Reports	MET 8.4, 8.5

B

Ballistic Parachute System	RAC 3.16.9
Balloon Operations, Manned Free	AIR 4.7
Bars	
– Stop.....	AGA 7.10.3
Beacons	
– Aerodrome.....	AGA 7.2
Bearing Strength, Runway and Taxiway	AGA 3.12
Beaufort Wind Scale	MET 2.6, Table 1
Bird Hazard Control, Airport.....	AGA 1.1.5
Blood Donation	AIR 3.14
BOTA	NAT 1.19.1
Brest Oceanic Transition Area (BOTA).....	NAT 1.19.1
Boundary Markers, Aerodromes.....	AGA 5.1

C

Cable Span Markings, Suspended	AGA 6.7
Canada	
– Flight Supplement.....	MAP 2.5.3

– Charts and Publications	
– Individual Purchases	MAP 4.2.1
– Subscriptions.....	MAP 4.2.2
– Shipping Act, extract from.....	SAR 4.8, AIR 2.11.1
Canadian Aviation Regulation Advisory Council (CARAC).....	GEN 5.4
RAC ANNEX 2.0, LRA ANNEX 5.8	
– Legislative Index	GEN 5.3
Canadian Domestic Airspace.....	RAC 2.2
Canadian Runway Friction Index (CRFI).....	AIR 1.6
– Coefficients	AIR 1.6.2
– Description and Method of Measurement.....	AIR 1.6.3
Canadian Type Certificate.....	LRA 5.2.2
Carbon Monoxide	AIR 3.2.3
Carburetor Icing.....	AIR 2.3
Cargo Restraint.....	AIR 4.4
Categories	
– VASI	AGA 7.6.4.2
– EWH (Eye-to-Wheel Height).....	AGA 7.6.4
CAVOK, Use of Term	RAC 1.4
Certificate	
– Airport.....	AGA 2.4
– Noise Compliance.....	LRA 5.3.5
Certificate of Airworthiness (C of A)	
– Special.....	LRA 5.3.2, 5.3.3
Certification	
– Of Airports	AGA 2.3
– Of Heliport.....	AGA 2.3
– Water Airport.....	AGA 2.3
Channel Spacing, VHF Communication Frequencies	COM 1.4
Charter Flight Airport Facilities Reservations	
– En Route, Low Altitude/High Altitude – Products	MAP 4.2.1
Charts	
– Aerodrome Obstacle – ICAO Type A.....	MAP 4.2.1
– Aeronautical, for Visual Flight	MAP 4.2.1
– En Route, Low Altitude/High Altitude – Prices	MAP 4.2.1
– Index of Aerodrome Obstacle Charts – ICAO Type A.....	MAP 4.2.1
– Index to Canadian Aeronautical	MAP 2.2
– Pavement Load Rating	AGA 3.12.1
– Procurement	
– Individual and Subscription	MAP 4.2.2
– Publication Revision Cycles	MAP 4.2.1
– Publications – International Flights	MAP 5.0
– Procurement of Aeronautical	MAP 4.2.1
– Updating of Canadian Aeronautical	MAP 2.3
– Upper Level – Actual, Forecast (PROG)	MET 11.0
Checklists, Pilot Vital Action.....	AIR 1.2
Circling Minima and Procedures.....	RAC 9.23, 9.24
Circuit Breakers and Alerting Devices	AIR 4.11
Circuit	
– Controlled Aerodromes.....	RAC 4.3
– Uncontrolled Aerodromes	RAC 4.5
Circular, Aeronautical Information	MAP 2.3
Civil Aviation Complaint Filing Procedures	GEN 7.0
Civil Aviation Contingency Operations (CACO) ...	GEN 6.0
– Headquarters Operations.....	GEN 6.2

– Accident, Occurrence, or Incident Reporting....	GEN 6.3
Civil Twilight, Morning and Evening.....	GEN 1.5.2
Class	
– A Airspace.....	RAC 2.8.1
– B Airspace.....	RAC 2.8.2
– C Airspace.....	RAC 2.8.3, 5.8
– D Airspace.....	RAC 2.8.4
– E Airspace.....	RAC 2.8.5
– F Airspace.....	RAC 2.8.6
– G Airspace.....	RAC 2.8.7, 8.10
Clean Aircraft Concept.....	AIR 2.12.2
Clear Air Turbulence (CAT),	
Avoidance of.....	MET 2.2, AIR 2.10
Clearance(s)	
– Delivery.....	RAC 4.2.2
– “Hold/Hold Short”.....	RAC 4.2.5
– IFR.....	RAC 7.4
– Landing.....	RAC 4.4.3
– Limit.....	RAC 8.9
– Leaving or Entering Controlled Airspace.....	RAC 8.8
– Oceanic Clearance Delivery.....	NAT 1.9.3
– Resolution Advisory (TCAS/ACAS).....	RAC 1.6
– Tower Frequency, Release from.....	RAC 4.2.9
Clearances Instructions and Information	
from the ATC.....	RAC 1.6, 6.1
Clearway, Definition.....	AGA 3.9
Clock Position System (ATS Surveillance Traffic	
Information)	
.....	RAC 1.5.3
Closed Markings – Runway, Taxiway, Heliports	AGA 5.6
Cloud Heights.....	MET 1.1.5, 3.13
Collision Avoidance	
– Right of Way, Regulations.....	RAC 1.8
– Use of Landing Lights.....	AIR 4.5
Communications Air-Ground Service,	
International.....	NAT 2.0
– Aviation Weather Information	
Service (AWIS).....	MET 1.1.3
– Emergency Communications and Security	
.....	COM 1.4.2, RAC 2.13
– Failure (VFR).....	RAC 4.4.8, 6.3.2.2
– Frequency 5680 kHz, Use of.....	COM 1.6
– General Information.....	COM 1.1
– Initial Contact.....	RAC 4.4.1, 9.9
– Language.....	COM 5.2
– Location Indicators.....	COM 2.0
– Navigation Equipment, Reporting	
Malfunction of.....	RAC 6.3.3
– Radiocommunication Regulations.....	COM 1.2
– Radio Navigation Aids.....	COM 4.0
– Responsible Authority.....	COM 1.2
– Satellite Systems.....	COM 1.10
– Satellite Voice.....	COM 1.10
– SATVOICE.....	COM 1.10
– Summary of Services.....	RAC 1.2.3
– Use of MF and ATF.....	RAC 4.5.6
– VFR Procedures at Uncontrolled Aerodromes	
with MF and ATF areas.....	RAC 4.5.7
– VHF Coverage in the NAT Region.....	NAT 2.5.2
Community Aerodrome Radio Stations	
(CARS).....	RAC 1.2.2
Confidential Incident Reporting	
– SECURITAS Program.....	GEN 3.5
Conservation.....	RAC 1.10
Contact and Visual Approaches.....	RAC 9.6
Contamination of Aircraft (Frost, Ice or Snow)	
– In Flight.....	AIR 2.12.3
– On Ground.....	AIR 2.12.2
Continuous Descent Final Approach (CDFA).....	AIR 2.17
Control Transfer	
– IFR Units to Towers.....	RAC 9.10
Controlled Airports	
– Approach Position Reports.....	RAC 9.9
– Arrival Procedures.....	RAC 4.4
– Initial Clearance.....	RAC 4.4.2
– Landing Clearance.....	RAC 4.4.3
– Operations on Intersecting Runways.....	RAC 4.4.9
– Private Advisory Stations.....	RAC 1.2.3
– Sequential Operations.....	RAC 4.4.9
– Simultaneous Operations.....	RAC 4.4.9
– Traffic Circuits.....	RAC 4.3
Controlled Airspace.....	RAC 2.5
– Area Extensions.....	RAC 2.7.2
– Clearances	
– Leaving or Entering.....	RAC 8.8
– Control Zones.....	RAC 2.7.3
– High-Level.....	RAC 2.6
– Low-Level.....	RAC 2.7
– Low-Level Airways – LF/MF, VHF/UHF... ..	RAC 2.7.1
– Transition Areas.....	RAC 2.7.5
– Use of Controlled Airspace by	
VFR Flights.....	RAC 2.5.1
Controlled Flight Into Terrain (CFIT).....	AIR 2.17.1
Controlled VFR (CVFR) Procedures.....	RAC 5.6
Conversion Tables.....	GEN 1.7.2
CRFI.....	AGA 1.1.3, AIR 1.6
Cross Country Instrument Training Flights.....	RAC 3.11
Crosswind Landing Limitations	
– Light Aircraft.....	AIR 2.2
Cruising Altitudes and Flight Levels.....	RAC 2.3.1
D	
Dangerous Goods	
– Transportation by Air.....	RAC ANNEX 3.0
Dangerous Situations	
– Refusal to Work.....	GEN 2.1.2
Date – Time Group.....	GEN 1.5.1
Day Markings of Obstructions.....	AGA 6.4
Declared Distances.....	AGA 3.10
Decompression Sickness.....	AIR 3.5
– Defence – ADIZ (Air Defence	
Identification Zone).....	RAC 2.13, 3.9,
– Flight Plans.....	RAC 3.9
Departure(s)	
– Approach and Alternate Minima.....	RAC 9.18
– Non-ATS Surveillance.....	RAC 4.1.1
– Procedures – Controlled Airports.....	COM 3.8
– RONLY Aircraft.....	RAC 4.2.12

– Vectoring.....	RAC 4.1.1
Design Eye Reference Point	AIR 4.12
Designated Mountainous Regions	
in Canada.....	RAC Fig. 2.11
Dial-up RCO	RAC 1.1.4
Disorientation	AIR 3.7
Displaced	
– Threshold Lighting.....	AGA 7.8.3
– Thresholds	AGA 3.5
– Threshold Markings.....	AGA 5.4.1
Ditching.....	AIR 2.11.2
DME (Distance Measuring Equipment).....	COM 4.7
– Intersections, Minimum En-Route	
Altitude.....	RAC 8.6.1.1
– Procedures (Holding Patterns)	RAC 10.8
DME-DME (RHO-RHO) System.....	COM 5.14
Downed Aircraft Procedures	SAR 4.7
Downdraft and Turbulence.....	AIR 1.5.7
Drugs.....	AIR 3.10

E

ELT (Emergency Locator Transmitter).....	SAR 3.0
– Accidental Transmissions	SAR 3.7
– Categories.....	SAR 3.2
– Downed Aircraft Procedures.....	SAR 4.7
– Flight Planning	
(Supplementary Information).....	RAC 3.15.9
– Installation and Maintenance Requirements	SAR 3.3
– Operating Instructions (Emergency Use).....	SAR 3.5
– Operating Instructions (Normal Use).....	SAR 3.4
– Schedule of Requirements to Carry an ELT	SAR 3.9
– Signal, Maximizing the.....	SAR 3.6
– Testing Procedures	SAR 3.8
Emergency	
– Action by the Pilot during Emergency	
Conditions	SAR 4.2
– Assistance.....	SAR 4.0
– Communications and Security	COM 1.4.2, RAC 2.13
– Declaring an	RAC 6.3.1, SAR 4.1
– Lighting, Aerodrome.....	AGA 7.13
– Locator Transmitter	SAR 3.0
– Monitoring of Emergency Frequency	
121.5 MHz.....	COM 1.12.2
– Procedures, Downed Aircraft.....	SAR 4.7
– Procedures for Signaling Vessels.....	SAR 2.4
– Radio Frequency Capability.....	SAR 4.5
– Transponder Alerting	SAR 4.3
Emergency Equipment	
– Flight Planning (Supplementary Information)	
.....	RAC 3.15.9
– Operations Over Sparsely Settled Areas	AIR 2.14
– Operations Over Water.....	AIR 2.11.3
English, Use of in Communications	COM 1.3
En-Route Procedures – VFR	RAC 5.0
Equipment	
– COM/NAV	RAC 3.16.4
– RNAV	RAC 9.2.2
– Surveillance (SSR) (Canadian and ICAO).....	RAC 3.16.4

Evaluation, Aeronautical.....	AGA 6.3
Examinations, Use of Hand-held Calculators	
or Computers for Written	LRA 3.3
Exhaust Plumes	AIR 4.16.1
Experimental Test Flights, Conduct of.....	AIR 4.2
Explosions and Fires.....	AIR 1.3.4
Export of Aircraft.....	LRA 4.7
Eye Reference Point, Design	AIR 4.12

F

Fan Blade Ice Shedding Procedure.....	AIR 2.12.1.1
FANS 1/A ADS WPR.....	COM 3.10
Fatigue.....	AIR 3.10
FD (Upper Level Wind	
and Temperature Forecasts)	MET 9.0
Final Approach Fix (FAF).....	RAC 9.19.2
FIR (Flight Information Regions).....	RAC Fig. 2.3, 2.4
Fire Extinguishers	
– For Use in Aircraft.....	AIR 1.4
– Types of.....	AIR 1.4.3
Fire Fighting, Aircraft Rescue and (ARFF)	AGA 8.0
– ARFF Hours of Availability	AGA 8.2
– Classification System.....	AGA 8.3
– ARFF Standby Request	AGA 8.4
– Discreet Communication	AGA 8.5
Fires and Explosions.....	AIR 1.3.4
Fires, Classification of.....	AIR 1.4.2
First Aid Kits on Privately Owned	
and Operated Aircraft.....	AIR 4.13
Fitness	
– Medically Fit.....	LRA 1.9.2
– Unfit Assessment.....	LRA 1.9.4
Flight Level Allocation Scheme (FLAS),.....	NAT 1.20.3
Flight(s)	
– Aerobatic.....	RAC 1.10
– Airmanship.....	AIR 1.0
– Authority.....	LRA 5.3
– Avoid flight in the vicinity of	
exhaust plumes.....	AIR 4.16.1
– Definitions flight experience	LRA 1.5
– Experimental Test.....	AIR 4.2
– Fuel Requirements.....	RAC 3.13
– Fuel, Sufficient Amount,	
IFR/VFR Flights.....	RAC 3.13.1, 3.13.2
– In Rain	AIR 2.5
– Information Regions (FIR).....	RAC Fig.2.3, RAC 2.4
– Information Service.....	RAC 1.1.1, 1.1.2
– Itineraries.....	RAC 3.6
– Itinerary form, Composite IFR/VFR/	
IFR Sample.....	RAC Fig. 3.1
– Military Flight Advisory Unit (MFAU)	RAC 1.1.6
– Mountainous Regions.....	RAC 2.12, AIR 2.13
– Operations – Airmanship	AIR 2.0
– Operations in Volcanic Ash	AIR 2.6
– Operations in Winter.....	AIR 2.12
– Operations – Mountainous Regions	
.....	RAC 2.12, AIR 2.13
– Operations on Water	AIR 2.11

– Other Information.....	RAC 3.16.8	– Area (GFA).....	MET 4.0
– Permit.....	LRA 5.3.4	– Aviation, Abbreviations.....	MET 15.0
– Planning.....	RAC 3.0, 12.5.4, SAR 2.0	– Charts (PROG).....	MET 11.2
– Priority.....	RAC 1.7	– Significant Weather Prognostic Charts	
– Temporary Restrictions – Forest Fires.....	RAC 2.9.2	– CMC.....	MET 12.1
– Time / Air Time.....	AIR 4.1	– RAFC.....	MET 12.2
– Transoceanic, General Aviation Aircraft.....	NAT 1.2	– TAF (Aerodrome).....	MET 7.0
Flight Plan/Itinerary		– Upper Level Charts – PROG.....	MET 11.0, 11.2
– Aerodrome, Departure and Time.....	RAC 3.16.5	– Upper Level Wind and Temperature (FD)	
– Aerodrome, Destination, Total Estimated Elapsed Time, SAR Time (Canadian only) and Alternate Aerodrome(s).....	RAC 3.16.7		MET 1.1.3, 9.0
– Aircraft Identification.....	RAC 3.16.1	– Winds and Temperatures Aloft Network, Canadian.....	MET 9.1
– Alternate Aerodrome for IFR Flight.....	RAC 3.14	French, Use of in Communications.....	COM 1.3
– Canadian.....	RAC 3.15.2	Frequency	
– Changes to the Information.....	RAC 3.7	– Mandatory (MF), Use of.....	RAC 4.5.4, 4.5.6
– Closing.....	RAC 3.12	– Monitoring 126.7 MHz.....	RAC 5.1
– Closing of a Flight Plan or Flight Itinerary Prior to Landing.....	RAC 3.12.2	– Release from Tower.....	RAC 4.2.9
– Composite, VFR and IFR.....	RAC 3.8	FSS (Flight Service Stations).....	RAC 3.4.1
– Contents.....	RAC 3.16	Fuels	
– Cross Country Instrument Training Flights.....	RAC 3.11	– Anti-icing Additives.....	AIR 1.3.3
– Cruising Speed, Altitude/Level and Route.....	RAC 3.16.6	– Aviation.....	AIR 1.3
– Defence VFR (DVFR) and Defence Flight Itineraries.....	RAC 3.9	– Dumping.....	RAC 6.3.4
– Equipment (Canadian and ICAO).....	RAC 3.16.4	– Fires and Explosions.....	AIR 1.3.4
– Filing (CAR 602.75).....	RAC 3.6.2	– Grades.....	AIR 1.3.1
– Flight Rules and Type of Flight.....	RAC 3.16.2	– Handling.....	AIR 1.3.2
– Flights Along or Outside Designated ATS Routes.....	RAC 3.16.6	– Minimum Fuel Advisory.....	RAC 1.7.2
– Forms, Completion of.....	RAC 3.15	– Requirements.....	RAC 3.13
– Fuel Requirements.....	RAC 3.13	– Sufficient Amount, IFR/VFR Flights.....	RAC 3.13.1, 3.13.2
– Fuel, Sufficient Amount, IFR/VFR Flights.....	RAC 3.13.1, 3.13.2	Fuel and Oil Weights.....	RAC 3.4.8
– ICAO.....	RAC 3.15.3, Fig. 3.2		
– IFR.....	RAC 3.15	G	
– IFR Flight Plan.....	RAC 3.7.2	Gander Oceanic Transition Area (GOTA).....	NAT 1.4
– Intermediate Stops.....	RAC 3.10	Gander Radio.....	NAT 2.5.1
– Number and Type of Aircraft and Wake Turbulence Category.....	RAC 3.16.3	Geographic Reference/Coordinates.....	GEN 1.4.2
– Other Information.....	RAC 3.16.8	Glassy Water and Landing Seaplanes.....	AIR 2.11.4
– Opening a VFR Flight Plan or Flight Itinerary.....	RAC 3.6.4	Global Navigation Satellite System (GNSS).....	COM 5.1, 5.2
– Requirements – Flights Between Canada and a Foreign State.....	RAC 3.6.3	– Approach Procedures.....	COM 5.4.2
Sample – Composite IFR/VFR/ IFR		– Approach Procedures with Barometric Vertical Navigation (baro-VNAV).....	COM 5.4.2.4
– Flight Itinerary.....	RAC Fig. 3.1	– Approach Procedures with Vertical Guidance (APV).....	COM 5.4.2
– IFR (ICAO).....	RAC Fig. 3.2	– Approaches at Alternate Aerodromes.....	COM 5.9, 5.9.1, 5.9.2
– VFR.....	RAC Fig. 3.3	– Avionics Databases.....	COM 3.15.8
– Type of Flight and Flight Rules.....	RAC 3.16.2	– Augmentation Systems (ABAS, SBAS, GBAS).....	COM 5.3
– VFR Flight Plan or Flight Itinerary.....	RAC 3.6.1	– GNSS Vulnerability	
Flight Operations.....	AIR 2.0	– Interference, Anomaly Reporting.....	COM 5.10
– At night.....	AIR 2.16	– NOTAMs.....	COM 5.5.2
Flight Planning.....	RAC 3.0	– Proper use of.....	COM 5.11
Flying Low, Hazards of.....	AIR 2.4	– User Comments.....	COM 5.12
Forecast		Glossary of Aeronautical Terms.....	GEN 5.1
– Aerodrome Forecasts from AWOS Sites.....	MET 7.5	GOTA.....	NAT 1.4
		Graphic Area Forecast (GFA).....	MET 4.0
		Gross Navigation Errors, Monitoring of.....	NAT 1.19.6
		Ground-to-Air Signals.....	SAR 4.7.1

H

Hang Glider Operations.....	AIR 4.15
Health and Safety Program, Transport Canada	
Aviation Occupational (A-OH&S).....	GEN 2.1
Heaters, Portable Combustion – Danger of.....	AIR 3.3
Helicopter Operations.....	RAC 4.5.3, 4.6
– At Controlled Airports.....	RAC 4.6
– Takeoff, Landing and Safety Areas.....	AGA 3.12
– Vortices.....	AIR 2.9
Heliports.....	AGA 5.5
– Arrival and Departure Hover Area.....	AGA 3.13
– Final Approach and Take-Off	
Area (FATO).....	AGA 7.12.2
Lighting.....	AGA 7.12
– Markers and Markings	
.....	AGA 5.5.1, 5.5.2, 5.5.3, 5.4, 5.5.5, 5.5.6, 5.6
– Touchdown and Lift-Off Area (TLOF).....	AGA 7.12.1
High Altimeter Settings.....	AIR 1.5.9
High Altitude Flight in Aircraft with	
Unpressurized Cabins.....	AIR 3.4
High Intensity Approach Lighting (HIAL).....	RAC 9.19.2.8
High Intensity Runway Operations (HIRO).....	RAC 4.4.10
Hijack (Unlawful Interference).....	RAC 1.8.8
Holding	
– Clearance.....	RAC 10.2
– DME Procedures.....	RAC 10.8
– Pattern, Entry Procedures.....	RAC 10.5
– Pattern, Non-Standard.....	RAC 10.4
– Pattern, Speed Limitations, DME Procedures,	
Shuttle Procedure.....	RAC 10.7, 10.8, 10.9
– Pattern, Standard.....	RAC 10.3
– Pattern, Timing.....	RAC 10.6
– Patterns Depicted on En Route	
and Terminal Charts.....	RAC 10.10
– Positions, Taxi.....	RAC 4.2.6
– Procedures	
– IFR.....	RAC 10.0
– VFR.....	RAC 4.4.2
– Speed Limitations.....	RAC 10.7
Hover	
– Approach and Take-Off Direction	
– Markings.....	AGA 5.5.6
– Taxi.....	RAC 4.6
– Hydroplaning.....	AIR 1.6.5
Hyperventilation.....	AIR 3.2.2
Hypothermia and Hyperthermia.....	AIR 3.16
Hypoxia.....	AIR 3.2.1

I

ICAO	
– Applicable ICAO and WMO Documents.....	MET 1.1.7
ICAO Flight Plan Form, Sample.....	RAC Fig. 3.2
ICAO Type A Charts.....	MAP 4.2.1
Ice Control and Snow Removal.....	AGA 1.1.4
Ice	
– Aircraft Contamination on the Ground,	
and in Flight.....	AIR 2.12.2, 2.12.3
– Accumulation.....	MET 2.4

– Types of Ice.....	AIR 2.12.3.1
– Aerodynamic Effects of Airborne Icing.....	AIR 2.12.3.2
– Roll Upset.....	AIR 2.12.3.3
IFR	
– Advance Notice of Intent.....	RAC 9.5
– Air Traffic Control Clearance.....	RAC 6.1
– Aircraft Categories.....	RAC 9.21
– Altitude Reports.....	RAC 8.3
– Application of Takeoff Minima.....	RAC 9.19.1
– Approach Ban.....	RAC 9.19.2
– Approach Clearance.....	RAC 9.3
– Approach Position Reports – Controlled Airports.....	RAC 9.9
– Arrivals.....	RAC 9.7
– Arrival Procedures.....	RAC 9.0
– Uncontrolled Aerodromes/Airspace.....	RAC 9.12, 9.13
– ATC Assignment of Altitudes.....	RAC 8.6
– Circling.....	RAC 9.23
– Procedures.....	RAC 9.24
– Clearance with VFR Restrictions.....	RAC 6.2.1
– Clearances.....	RAC 7.4
– Clearances – Leaving or Entering	
Controlled Airspace.....	RAC 8.8
– Climb or Descent.....	RAC 8.4
– Contact and Visual Approaches.....	RAC 9.6
– Corrections for Temperature.....	RAC 9.17.1, Fig. 9.1
– Cross Country Training Flight.....	RAC 3.11
– Departure, Approach and Alternate Minima.....	RAC 9.18
– Departure Procedures.....	RAC 7.0
– Departure from Uncontrolled Aerodromes.....	RAC 7.9
– Descent Out of Controlled Airspace.....	RAC 9.4
– DME Holding Procedures.....	RAC 10.8
– Emergencies and Equipment Failures.....	RAC 6.3
– En Route Procedures.....	RAC 8.0
– En Route – Uncontrolled Aerodromes	
(Class-“G” Airspace).....	RAC 8.10
– Flight – Two-Way Communications Failure.....	RAC 6.3.2
– Flight Plan.....	RAC 3.7.2
– Flight Plan – Completion of.....	RAC 3.15
– Flight, “1 000-Ft-on-Top”.....	RAC 8.7
– Flights in VMC.....	RAC 6.2
– General.....	RAC 6.0
– Holding Clearance.....	RAC 10.2
– Holding Entry Procedures.....	RAC 10.5
– Holding Pattern, Speed Limitations.....	RAC 10.7
– Holding Pattern, Timing.....	RAC 10.6
– Holding Procedures.....	RAC 10.0
– ILS, Category II Minima.....	RAC 9.18.1
– Initial Contact at Uncontrolled Aerodromes.....	RAC 9.11
– Initial Contact with Tower.....	RAC 7.3, 9.9
– Instrument Procedures, Development of.....	RAC 6.6
– Landing Minima.....	RAC 9.19.3
– Mach Number.....	RAC 8.3.1, 12.1, NAT 1.13
– Minimum Altitudes.....	RAC 8.5
– Missed Approach Procedures.....	RAC 9.26
– Missed Approach Procedures – Visual.....	RAC 9.25
– Noise Abatement Procedures – Departure.....	RAC 7.6
– Non-Standard Holding Pattern.....	RAC 10.4
– Obstacle and Terrain Clearance.....	RAC 7.7

– Outbound Report	RAC 9.14
– PAR (Precision Radar Approaches)	COM 7.1, RAC 9.8.4
– Position Reports	RAC 8.1
– Mandatory Routes	RAC 3.16.6, 11.4.3
– Mandatory IFR Routes (Including RNAV)	RAC 11.4.3
– Procedure Altitudes	RAC 9.17
– Procedures – Uncontrolled Aerodromes/Airspace	RAC 4.5.2, 9.14
– Published Holding Patterns	RAC 10.10
– Release from Tower Frequency	RAC 7.8
– Remote Altimeter Setting	RAC 9.17.2
– Reporting of Equipment Malfunction	RAC 6.3.3
– Reporting Procedures	
– Uncontrolled Aerodrome	RAC 9.12
– Required Visual Reference	RAC 9.19.3
– Runway Visual Range (RVR)	RAC 9.20
– Separation	RAC 6.4
– Shuttle Procedure	RAC 10.9
– Simultaneous Approaches	RAC 9.27
– Speed Adjustment – ATS Surveillance Controlled Aircraft	RAC 9.7.3
– Standard Holding Pattern	RAC 10.3
– Standard Instrument Departure (SID)	RAC 7.5
– Standard Terminal Arrival (STAR)	RAC 9.2, 9.2.3
– Straight-in Approach	RAC 9.15
– Straight-in Landing Minima	RAC 9.22
– True Airspeed (TAS)	RAC 8.2.2
– Uncontrolled Airspace	RAC 9.13
– Visual Approach	RAC 9.6.2
ILS (Instrument Landing Systems)	COM 4.10
– Automatic Landing (Autoland) Operations	COM 4.10.7
– Categories	COM 4.10.5
– Glide Path	COM 4.10.2
– Glide Path Fluctuations	COM 4.10.7
– Localizer	COM 4.10.1
– Minima, Category II	RAC 9.18.1
Importation of – Aircraft into Canada	LRA 4.6
Index – Aerodrome Obstacle Charts – ICAO Type A	MAP 4.2.1
– Legislation – <i>Canadian Aviation Regulations</i>	GEN 5.3
Information – Signs	AGA 5.8.2
– Survival Advisory	AIR ANNEX
– Weather	MET 3.0
Initial Contact	RAC 4.4.1, 9.9
Interception – Procedures	SAR 4.6 SCHEDULE I
– Visual Signals for Use in the Event of	SAR 4.6 SCHEDULE II
Intermediate Approach	RAC 9.16
Intermediate Stops	RAC 3.10
International Civil Aviation Organization (ICAO) – Definitions	AGA 1.2.1
– Documents	AGA 1.1.2

International Flights – Charts	MAP 5.0
– HF Air-Ground Frequencies, Use of General Purpose VHF, in Lieu of	COM 1.4
Internet address (Transport Canada Home Page) ...	LRA 5.7
Instrument – Flight Rules – General	RAC 6.0
– Flight Test (IFT)	COM 9.4
– Rating Minima	RAC Fig. 9.2
Insurance – Liability	LRA 4.8
Interference with Aircraft Navigational Equipment	COM 4.4
Intersecting Runways, Operations on	RAC 4.4.9

J

Jet and Propeller Blast Danger	AIR 1.7
--------------------------------------	---------

L

Landing Distance Available (LDA)	AGA 3.10
Landing Lights, Collision Avoidance	AIR 4.5
Landing Minima	RAC 9.19.3
Legislative Index – <i>Canadian Aviation Regulations</i>	GEN 5.3
Licences – Airline Transport	LRA 1.7.4
– Commercial Pilot	LRA 1.7.3
– Differences with ICAO Standards	LRA 1.8
– Flight Engineer	LRA 1.7.6
– Medical Examination Requirements	LRA 2.2
– Multi-crew	LRA 1.7.5
– Pilot	LRA 1.7.1
– Private Pilot	LRA 1.7.2
– Recency Requirements	LRA 1.7.2
– Reinstatement of Suspended Licence	LRA 1.11
Licensing – Flight Crew Licensing Administration	LRA 1.14
– Flight Crew Conversion Agreement between Canada and the United States	LRA 1.13
– Flight Crew Licensing	LRA 1.0
– Licensing and Registration of Aircraft	LRA 4.5
Life-Saving Equipment for Aircraft Operating Over Water	AIR 2.11.3
Light Aircraft – Crosswind Landing Limitations	AIR 2.2
Lighting – Aerodrome	AGA 7.0
– Approach	AGA 7.5
– Approach/Take-Off Direction	AGA 7.12.3
– Displaced Threshold	AGA 7.8.3
– Emergency	AGA 7.13
– Heliport	AGA 7.12
– Low Intensity Approach (LIAL)	AGA 7.5.1
– Medium Intensity Approach Lighting System (MALS)	AGA 7.5.1
– Medium Intensity Approach, System with Sequenced Flashing Lights (MALSF)	AGA 7.5.1
– Medium Intensity Approach Lighting and Runway	

– Alignment Indicator Lights (MALSR)	AGA 7.5.1
– Night	AGA 7.3
– Non-Precision Approach Runways	AGA 7.5.1
– Obstructions	AGA 6.0
– Omnidirectional Approach (ODALS)	AGA 7.5.1
– Rapid-Exit Taxiway Indicator Lights	AGA 7.9
– Runway	AGA 7.8
– Runway Centre Line	AGA 7.8.4
– Runway Touchdown Zone	AGA 7.8.5
– Simplified Short Approach Lighting System with Runway Alignment Indicator Lights (SSALR)	AGA 7.5.2
– Taxiway	AGA 7.10
– Unserviceable Area	AGA 7.4
Lights	
– Approach and Take-Off Direction Lights	AGA 7.12.3
– Rapid-Exit Taxiway Indicator Lights	AGA 7.9
– Runway Edge Lights	AGA 7.8.1
– Runway End Lights	AGA 7.8.2
– Runway Guard Lights	AGA 7.11
– Runway Threshold End Lights	AGA 7.8.2
– Taxiway Centreline Lights	AGA 7.10.2
– Taxiway Edge Lights	AGA 7.10.1
– Use of Landing Lights – Collision Avoidance	AIR 4.5
– Use of Strobe	AIR 4.6
Lights, Runway Threshold Identification (RTIL) .	AGA 7.7.1
Limited Weather Information Systems (LWIS)	MET 1.1.5, 1.2.4
Localizer	COM 4.10.1
Logging Operations	AIR 2.4.2
Low	
– Level Controlled Airspace	RAC 2.7
– Level Wind Shear	AIR 2.8
– Low Flying	AIR 2.4
– Flying Near High-Voltage Power Lines	AIR 2.4.3
– visibility operations plan (LVOP)	RAC 1.6

M

Mach Number	
– Clearances and Reports	RAC 8.2
– Adherence to	NAT 1.13
– True Airspeed (TAS)	NAT 1.7.2
Maintenance Requirements	
– For Canadian Registered Aircraft	LRA 5.6
– Aircraft used in Dual Role Operations	LRA 5.6.2
Maintenance Certificate	LRA 5.4
Major Errors in Altimeter	RAC Fig. 9.1, AIR 1.5.4
Mandatory Frequency (MF), Use of	RAC 4.5.4, 4.5.6
Mandatory Instruction Signs	AGA 5.8.3
Manned Free Balloon Operations	AIR 4.7
Manoeuvring Area, Visual	RAC 9.25
MANOT (Missing Aircraft Notice)	SAR 2.3
Markers	
– Aerodrome Boundary	AGA 5.1
– Retroreflective	AGA 7.15
– Seaplane Dock	AGA 5.3
– Shore	AGA 6.7
– Takeoff or Landing Area Boundary	AGA 5.1

Markings	
– Aerodrome	AGA 5.1
– Approach and Take-Off	AGA 5.5.6
– Appurtenances	AGA 6.6
– Aeronautical Evaluation	AGA 6.3
– Arrows	AGA 5.4.1
– Cable Spans	AGA 6.2, 6.7
– Closed	AGA 5.6
– Day Marking	AGA 6.4
– Displaced Threshold	AGA 5.4.1
– Helicopter Safety Area Markers	AGA 5.5.2
– Heliports	AGA 5.5
– Heliport Identification	AGA 5.5.3
– Heliport Takeoff and Landing Area Marking	AGA 5.5.1
– Holding	AGA 5.4.3
– Hover Area	AGA 5.5.4
– Obstruction	AGA 6.0
– Power Line Crossings	AGA 6.7
– Preferred Approach and Departure Path	AGA 5.5.6
– Runway	AGA 5.4
– Standards	AGA 6.2
– Taxiway Exit and Holding	AGA 5.4.3
– Unserviceable Area	AGA 5.7
Marshalling Signals	AIR 1.8
Measurement, Units of	GEN 1.4
Medical	
– Aeromedical Factors	AIR 3.2
– Assessment Process	LRA 2.1
– Aviation Medical Review Board	LRA 2.4
– Examination Requirements	LRA 2.2
– Fitness for Permits and Licences	LRA 1.9
– Periodic Medical Exam Categories 1, 2 3 Medically Fit	LRA 2.3
– Unfit Assessment	LRA 2.5
Medical Information	AIR 3.0
– Alcohol	AIR 3.9
– Anesthetics	AIR 3.13
– Blood Donation	AIR 3.14
– Carbon Monoxide	AIR 3.2.3
– Decompression Sickness	AIR 3.5
– Disorientation	AIR 3.7
– Drugs	AIR 3.10
– Fatigue	AIR 3.10
– follow-up procedures after an in-flight illumination	AIR 4.15.5
– General Health	AIR 3.1
– High Altitude Flight in Aircraft with Unpressurized Cabin	AIR 3.4
– Hyperventilation	AIR 3.2.2
– Hypothermia and Hyperthermia	AIR 3.17
– Hypoxia	AIR 3.2.1
– Mandatory Medical Reporting	AIR 3.1.1
– Middle Ear and Sinus Discomfort or Pain	AIR 3.8
– Portable Combustion Heaters, Potential Hazard of	AIR 3.3
– Pregnancy	AIR 3.15
– Scuba Diving	AIR 3.6

– Vision.....	AIR 3.7
Meteorological / Meteorology	
– Abbreviations, Significant Weather.....	MET 12.1
– AIRMET.....	MET 1.1.3, 1.3.4, 1.3.6, 5.0
– Authority, Areas of Responsibility.....	MET 1.1.1
– Automated Reports	
– Other.....	MET 8.6
– Reports from Other Non-aviation Autostations	
.....	MET 8.6
– Voice Generator Module (VGM).....	MET 8.6
– Aviation Forecasts, Abbreviations	MET 15.0
– Aviation Weather Briefing Service (AWBS).....	MET 1.1.3
– Aviation Weather Information Service.....	MET 1.1.3
– Aviation Weather Reports.....	MET 3.2, 8.0
– Aviation Weather Services	MET 1.1.3
– AWOS (Automated Weather Observation System).....	MET 8.5
– Canadian Forecast Winds and Temperatures Aloft Network.....	MET 9.1
– Canadian Meteorological Centre (CMC)	MET 12.1
– Canadian Weather Information.....	MET 1.3.5, 3.0
– Charts and Forecasts.....	MET 1.3
– Clear Air Turbulence (CAT), Avoidance of	MET 2.2, AIR 2.10
– Coastal Weather.....	MET 1.3.5
– Differences with ICAO Annex-3	MET 1.1.8
– GFA (Area Forecast).....	MET 1.1.3, 1.3.6, 4.0
– Forecasts and Charts.....	MET 1.3
– Ice Accumulation.....	MET 2.4
– Locations – Aerodrome Forecast	MET 7.1
– METAR (Aerodrome Routine Meteorological Report).....	MET 1.2.1, 3.2, 8.0
– Observations and Reports.....	MET 1.2
– Pilot Report (PIREP)	
.....	MET 1.1.3, 1.1.6, 2.0, 2.2.1, RAC 1.1.3
– Report (AIREP).....	NAT 1.15
– Reports, Forecasts and Charts.....	MET 3.1, 3.2
– Responsibility.....	MET 1.1.1
– Services Available	MET 1.1.2
– SIGMET.....	MET 1.1.3, 6.0
– Space Weather	MET 14.0, COM 5.5.4
– SPECI (Special Weather Reports)	
.....	MET 1.2.1, 8.4, 8.5
– Special VFR Weather Minima.....	RAC Fig. 2.8
– Surface Weather Maps	MET 10.0
– Symbols	
– Significant Weather.....	MET 12.1
– Surface Weather Maps	MET 10.0
– TAF (Aerodrome Forecast)	MET 1.1.3, 7.0
– Turbulence Reporting Criteria Table.....	MET 2.2.2
– Upper Level Charts, analysed (ANAL)	MET 11.1
– Upper Level Wind and Temperature Forecasts.....	MET 1.3.7, 9.0
– VOLMET.....	NAT 2.2, MET 1.4
– Weather Charts.....	MET 3.3
– Weather Observing Systems	MET 3.2, 3.3, 1.1.5
– Weather Radar	COM 7.1, MET 1.3.9
– Wind Shear	MET 2.3

Middle Ear and Sinus Discomfort or Pain.....	AIR 3.8
Military	
– Arrestor Cables.....	AGA 9.2
– Flight Advisory Unit (MFAU)	RAC 1.1.6
– Radar Assistance (Canadian Forces)	RAC 1.5.7
Minima	
– Application of.....	RAC 9.19
– Circling.....	RAC 9.23
– Departure, Approach and Alternate.....	RAC 9.18
– Straight-in Landing	RAC 9.22
Minimum	
– Altitudes – Overflying Aerodromes.....	RAC 5.5
– Altitudes – VFR	RAC 5.4
– En-Route Altitudes (MEA).....	RAC 8.6.1
– Fuel Advisory	RAC 1.7.2
– Holding Altitude (MHA)	RAC 10.7
– IFR Altitudes	RAC 8.6
– Obstruction Clearance Altitude (MOCA)	
.....	RAC 8.5, 8.6.1
– Sector Altitude (MSA).....	RAC 9.2.1
Minimum Navigation Performance Specifications (MNPS)	NAT 1.11
– Certification	NAT 1.7.5
– High-Level Airspace (HLA).....	NAT 1.11, NAT 1.19
– Navigation Errors, Monitoring of Gross.....	NAT 1.19.6
– North Atlantic (NAT) MNPS Operations	
COM 3.15.11	
Missed Approach	
– From a Circling Procedure.....	RAC 9.25
– Procedures	RAC 9.26
Monitoring Emergency Frequency 121.5 MHz ...	COM 1.4.2
Morning and Evening Civil Twilight Charts.....	GEN 1.5.2
Mountainous	
– Areas, Flight Operations in.....	AIR 2.13
– Regions	RAC 2.12, Fig. 2.12

N

NAR (North American Routes).....	NAT 1.3
National Harbours Board Act.....	AIR 2.11.1
Nationality and Registration Marks	GEN 1.6, LRA 4.3
NAV CANADA	
– Regions – Addresses, Facsimile and Telephone Numbers.....	GEN 1.1.2
NAVAID	
– DME (Distance Measuring Equipment)	COM 4.7
– LOC (Localizer)	COM 4.10.1
– NDB (Non-Directional Beacon).....	COM 4.10.3
– Radio Navigation Aids.....	COM 4.0
– TACAN (Tactical Air Navigation).....	COM 4.8
– VOR (VHF Omnidirectional Range)	COM 4.5
– VORTAC (VOR and TACAN).....	COM 4.9
Navigation Aids	
– Accuracy, Availability and Integrity of.....	COM 4.2
– Pilot Reporting of Abnormal Operation of....	COM 4.3
Navigation System	
– GNSS (Global Navigation Satellite System)	
.....	COM 5.1, 5.2
– GPS (Global Positioning System)	COM 5.2.1
– NDB (Non-Directional Beacon).....	COM 4.6

– VOR/DME (RHO-THETA)	COM 5.14
Night Lighting	AGA 7.3
Night, Flight Operations at	AIR 2.16
Noise	
– Abatement	RAC 4.1.2, 7.6
– Preferential Runways	RAC 4.1.3, 7.6.2
Non-Directional Beacon (NDB)	COM 4.10.3
NORDO/ONLY	
– RAC 4.2.10, 4.2.12, 4.4.5, 4.4.6, 4.5.7, 4.5.8	
North American Routes (NAR)	NAT 1.3
North Atlantic	
– Clearances	NAT 1.9
– Data Link Mandate (DLM) Airspace	NAT 1.20.6
– Documents and Guidance Material	NAT 1.1.2
– Domestic Clearances	NAT 1.9.2
– Flight Planning Procedures	NAT 1.7
– Flight Rules	NAT 1.6
– In-flight Contingencies	NAT 1.17
– Oceanic Clearance Delivery	NAT 1.9.3
– Operations (NAT)	NAT 1.0
– Organized Track System	NAT 1.5, NAT 1.20.3
– Regulation	NAT 1.1.1
– Transponders, Operation of	NAT 1.14
Northern and Southern Domestic Airspace	RAC 2.2.1
Northern Canada, Single-Engine Aircraft Operations	AIR 2.14.1
NOTAM	MAP 3.0
– Collection, Evaluation and Dissemination	GEN 1.1.5
– Criteria for Issuance	MAP 3.1, 3.6
– Description	MAP 3.2.3
– Distribution – Canadian, International	MAP 3.5
– Format	MAP 3.2
– GPS Satellite Outages	COM 5.5.1
– Information for Flight Planning	RAC 3.3
– Schedule	MAP 3.2.3.5
– Service	COM 5.5.1, 5.5.2
– Types	MAP 3.3
Notice – PNR (Prior Notice Required)	AGA 2.2

O

Obstacle	
– And Terrain Clearance	RAC 7.7
– Clearance During Vectors	RAC 1.5.5
– Clearance Limit	AGA 7.6.7
– Limitation Surfaces	AGA 4.2
– Protection Surface	AGA 7.6.6
– Restrictions	AGA 4.0
– Heliports	AGA 4.2.2
– Obstruction	
– Aeronautical Evaluation	AGA 6.3
– Appurtenances	AGA 6.6
– Day Lighting	AGA 6.5
– Day Marking	AGA 6.4
– Markings	AGA 6.0
– Markings, Standards	AGA 6.2
– Suspended Cable Span Markings	AGA 6.7
Occupational Health and Safety Program, Aviation (A-OH&S)	GEN 2.1

– Civil Aviation Safety Inspectors	GEN 2.1.3
Occurrence – Reporting an Aviation	GEN 3.3
Oceanic Clearances	NAT 1.9.1
Oil and Fuel Weights	RAC 3.5.2
Operational Information Signs	AGA 5.8.2
Operations	
– On Intersecting Runways	RAC 4.4.9
– Sequential	RAC 4.4.9
– Simultaneous	RAC 4.4.9
Organized Track System (NAT)	NAT 1.5, NAT 1.20.3
Over-the-Top, VFR	RAC 2.7.4
Overflying Aerodromes, Minimum Altitudes	RAC 5.5

P

PAPI (Precision Approach Path Indicator)	AGA 7.6.3, 7.6.4.3
Parachute Jumping	AIR 4.8
Paraglider operations	AIR 4.9
Passenger(s) – Actual Weights	RAC 3.5.1
– Weight standards	RAC 3.5
Pavement Load Rating Charts	AGA 3.12.1
Permission – PPR (Prior Permission Required)	AGA 2.2
Permits	
– Medical Examination Requirements	LRA 2.2
– Reinstatement of a suspended	LRA 1.11
– Student Pilot	LRA 6.1
– Summary of Requirements	LRA 1.6
Phone use During a Radio Communications	
– Failure	COM 1.7
Pilot	
– Permits	LRA 1.4.1, 1.6.2
– Procedures when exposed to laser or other	
– Directed Bright Light Sources	AIR 4.15
– Proficiency Check (PPC)	COM 9.4
– Reporting of Abnormal Operation of Navigation Aids	COM 4.3
– Vital Action Checklists	AIR 1.2
– Waivers – Wake Turbulence	RAC 4.1.1
PIREP (Pilot Report)	MET 1.1.6, 2.0, 2.2.1
PN (Prior Notice Required)	AGA 2.2
Position Reports	NAT 1.10
– IFR	RAC 8.1
– VFR	RAC 5.1
– Automatic Dependent Surveillance Waypoint Position Reporting (FANS 1/A ADS WPR)	COM 3.10
Positive and Negative G	AIR 3.18
Power-back / Push-back Requests	RAC 4.2.4
Power Line Crossing Markings	AGA 6.7
Practice Spins	AIR 4.3
Precision Approach Path Indicator (PAPI)	AGA 7.6.3, 7.6.4.3
Preferential Runways	
– Assignments	RAC 4.1.3
– Noise	RAC 7.6.2
Preferred Routes Messages (PRM)	NAT 1.8
Pre-flight	
– Service, Single Source	RAC 3.4
Pregnancy	AIR 3.15

Pressure	
– Altimeter	AIR 1.5
– Drop	AIR 1.5.8
– Region, Standard	AIR 1.5.5
Prior Notice Required (PN)	AGA 2.2
Private	
– Advisory Stations – Controlled Airports	RAC 1.2.3
Procedure(s)	
– Air Traffic Control (ATC) Special	RAC 11.0
– Altitudes	RAC 9.17
– Downed Aircraft	SAR 4.7
Propeller and Jet Blast Danger	AIR 1.7
Publications and Charts, Procurement	
of Aeronautical	MAP 4.2.1
Push-back / Power-back Requests	RAC 4.2.4

R

Radar / ATS Surveillance	COM 7.0
– Alerting Manoeuvres	SAR 4.4
– Arrivals	RAC 9.7
– ASDE (Airport Surface Detection Equipment) COM 7.1	
– Canadian Forces Radar Assistance	RAC 1.5.7
– Misuse of Vectors	RAC 1.5.6
– Navigation Assistance to VFR Flights	RAC 1.5.4
– Obstacle Clearance During Vectors	RAC 1.5.5
– PAR (Precision Approach)	COM 7.1
– Primary Surveillance Radar (PSR)	COM 7.1
– Required	RAC 9.8.2
– Secondary Surveillance Radar (SSR)	COM 7.2
– Service	RAC 1.5
– Procedures	RAC 1.5.2
– Surveillance – VFR	RAC 5.7
– Traffic Information (Clock System)	RAC 1.5.3
– Use of ATS Surveillance in the Provision of AAS by FSSs	RAC 1.5.8
– Misuse of Vectors	RAC 1.5.6
– Vectors, Obstacle Clearance During	RAC 1.5.5
– Weather Radar	COM 7.1 MET 1.3.9
Radio	
– Checks	RAC 4.2.3
– Navigation Aids, Ground Based	COM 4.0
– Radio Telephony Network Operations – North Atlantic Area (NAT)/Anchorage Arctic FIR	NAT 2.2
Communications, Voice	COM 1.0
– Arctic	RAC 1.1.3
– Channel Spacing	COM 1.4
– Radiocommunication Regulations	COM 1.2
– Regulations – Operator's Certificates and Station Licences	COM 1.2
Rapid-Exit Taxiway Indicator Lights	AGA 7.9
Rapid-Exit Taxiways	AGA 3.11
Recency Requirements – Pilot Licence	
Privileges	LRA 1.12
Recreational Aviation	AIR 4.7 to 4.10
Reduced Lateral Separation, Arrangements for	NAT 1.12
Reduced Vertical Separation Minimum (RVSM)	
– North Atlantic RVSM	RAC 1.21
– NAT Height Monitoring	NAT 1.20.7, 1.20.8
– In-flight Contingencies	NAT 1.17
– Minimum Aircraft System Performance Specification	NAT 1.12
Reduced Visibility Operations Plan (RVOP)	RAC 1.6
Refuelling	
– Fires and Explosions	AIR 1.3.4
Refuges, Reserves and Parks (National, Provincial and Municipal)	RAC 1.10.3
Region(s)	
– Altimeter Setting	RAC 2.11
– Mountainous	RAC 2.12, RAC Fig. 2.13
– NAV CANADA	GEN 1.1.2
– Transport Canada	GEN 1.1.1
Registered Aerodrome	AGA 2.0
Registration Marks and Nationality	GEN 1.6, LRA 4.3
Regulations, Airport Zoning	AGA 4.3
Reinstatement of Suspended Permit, Licence or Rating	LRA 1.11
Remote Altimeter Setting	RAC 9.17.2
Remote Communications Outlets (RCO)	COM 1.4.1
– Dial-up RCOs	COM 1.4.1
– Flight Information Service En Route (FISE)	COM 1.4.1, RAC 1.1.3, 1.1.4, 4.5.1
– Remote Aerodrome Advisory Service (RAAS)	COM 1.4.1, RAC 1.1.3, 1.1.4, 4.5.1
Remotely Piloted Aircraft (RPA)	AIR 4.16
– Advanced Operations	RPA 3.4
– Basic Operations	RPA 3.3
– Fitness of Crew Members	RPA 3.2.7
– General Information	RPA 1.0
– General Operation and Flight Rules	RPA 3.2
– Maximum Altitude	RPA 3.2.13
– Micro RPA - Less than 250g	RPA 2.0
– Minimum Weather Conditions	RPA 3.2.22
– Night Flight	RPA 3.2.27
– Operations at or in the Vicinity of an Aerodrome, Airport or Heliport	RPA 3.2.35, 3.4.5
– Pilot Requirements	RPA 3.3.2, 3.4.2
– Pre-flight Information	RPA 3.2.12
– Records	RPA 3.2.36
– Registration	RPA 3.1
– Serviceability of the RPAS	RPA 3.2.17
– Small RPA- 250g to 25 kg	RPA 3.0
Reports	
– Altitude	NAT 1.16
– ATS – Possible Contravention of the Air Regulations	RAC 1.1.4
– Automated Reports	
– Other	MET 8.6
– Limited Weather Information System (LWIS)	MET 8.5
– Voice Generator Module (VGM)	MET 8.6
– AWOS – METAR AUTO or SPECI AUTO	MET 8.5
– CRFI	AGA 1.1.3, AIR 1.6
– Pilot (PIREP)	MET 2.0
– Pollution	RAC 1.12.5

Required Visual Reference.....	RAC 9.19.3
Resolution Advisories (TCAS/ACAS).....	RAC 1.6
Responsibilities	
– NAV CANADA.....	GEN 1.1.2
– Transport Canada.....	GEN 1.1.1, AGA 2.3.3
Restricted Airspace.....	RAC 2.8.6
Retroflective Markers.....	AGA 7.15
Right of Way – Collision Avoidance Regulations.....	RAC 1.9
RNAV (Area Navigation) Operations.....	COM 5.0
RONLY (Receiver Only)/NORDO (No Radio), Procedures.....	RAC 4.2.10, 4.2.12, 4.4.5, 4.4.6, 4.5.7, 4.5.8
Routes, Canadian Domestic	
– Mandatory IFR Routes (including RNAV).....	RAC 3.16.6, 11.4.3
RSC and CRFI Reporting.....	AIR 1.6.4
RTIL (Runway Threshold Identification Lights).....	AGA 7.7
Runway(s)	
– Centre Line Lighting.....	AGA 7.8.4
– Characteristics.....	AGA 3.0
– CRFI.....	AIR 1.6
– Declared Distances.....	AGA 3.10
– Dimensions.....	AGA 3.1
– End Lights.....	AGA 7.8.2
– Friction Calibration Method.....	AGA 1.1.4.1
– Guard Lights.....	AGA 7.11
– Heading.....	RAC 7.5
– Holding Position Markings.....	AGA 5.4.3
– Intersecting, Operations on.....	RAC 4.4.9
– Lighting.....	AGA 7.8
– Markings.....	AGA 5.4
– Non-Precision Approach.....	AGA 7.5.1
– Sequential Operations.....	RAC 4.4.9
– Simultaneous Operations.....	RAC 4.4.9
– Strip.....	AGA 3.2
– Taxiway Bearing Strength.....	AGA 3.12
– Threshold Identification Lights (RTIL).....	AGA 7.7
– Touchdown Zone Lighting.....	AGA 7.8.5
– Wet.....	RAC 4.4.9, AIR 1.6.5
– Winter Condition NOTAM.....	AIR 1.6.4
Runway turn pad.....	AGA 3.6
Runway Visual Range (RVR).....	RAC 9.20
– Comparative Scale – Feet to Meters.....	GEN 1.7.3
– Operational use of RVR.....	RAC 9.20.2

S

Safety.....	GEN 2.0
– Alert Procedure and Phraseology.....	RAC 12.15
– Aviation Safety Analysis.....	GEN 2.2
– Aviation Safety Letter (ASL).....	GEN 2.2.4
– Occupational.....	GEN 2.1
SAR (Search and Rescue).....	SAR 1.1
– Emergency Locator Transmitter.....	SAR 3.0
– Flight Planning.....	SAR 2.0
– Ground-to-Air Signals.....	SAR 4.7.1
– Interception Procedures.....	SAR 4.6
– MANOT (Missing Aircraft Notice).....	SAR 2.3
– Procedures for Signaling Vessels.....	SAR 2.4
– Regions (SRR).....	SAR Fig. 1.1

– Rescue Co-ordination Centres (RCCs).....	SAR 1.1
– Responsible Authority.....	SAR 1.0
– Services Available.....	SAR 1.2
– Survival.....	SAR 4.7.2
Satellite Navigation (SatNav).....	COM 5.3.2
– Current Approvals.....	COM 5.4
– Required Navigation Performance.....	COM 6.0
Scuba Diving.....	AIR 3.6
Seaplane Dock Markers.....	AGA 5.3
Seaplanes	
– Landing on Glassy Water.....	AIR 2.11.4
– Landing on Unbroken Snow Conditions.....	AIR 2.12.6
– Use on Snow Surfaces.....	AIR 2.12.5
Search and Rescue (see SAR).....	SAR 1.1
SECURITAS Program.....	GEN 3.5
Security, Emergency Communications and.....	COM 1.4.2, RAC 2.13
SELCAL (Selective Calling System).....	NAT 2.4
Sequential Operations.....	RAC 4.4.9
Service Difficulty Reporting Program.....	LRA 2.6.4
Services	
– Aeronautical Fixed (AFS).....	MAP 3.5, RAC 3.3
– Air Traffic.....	RAC 1.1.1
– Apron Advisory.....	RAC 1.2.4
– Arctic Territories.....	RAC 1.1.3
– Other Than Air Traffic Services.....	RAC 1.2
“Shall” and “Should” (Definitions).....	GEN 1.1.3
Shannon Oceanic Transition Area (SOTA).....	NAT 1.19.1
Shore Markers.....	AGA 6.7
“Should” and “Shall” (Definitions).....	GEN 1.1.3
SIGMET	
(Significant Meteorological Report).....	MET 1.1.3, 6.0
Signals	
– Ground-to-Air.....	SAR 4.7
– Intercepting and Intercepted Aircraft.....	SAR 4.6
– Marshalling for Aircraft and Helicopters.....	AIR 1.8
– Visual.....	RAC 4.2.11, 4.4.7
Significant Weather Prognostic Charts (RAFC).....	MET 3.13
Signs	
– Airfield.....	AGA 5.8
– Illumination of Airfield.....	AGA 5.8.4
– Information.....	AGA 5.8.2
– Mandatory Instruction.....	AGA 5.8.3
Simultaneous Operations.....	RAC 4.4.9
Simultaneous Precision Instrument Approaches	
– Converging Runways.....	RAC 9.28
– Parallel Runways.....	RAC 9.27
Single-engine Aircraft Operating	
in Northern Canada.....	AIR 2.14.1
– Transoceanic Flight.....	NAT 1.2
Single Side Band.....	NAT 2.3
Snow	
– Flight Operations in Winter.....	AIR 2.12
– Landing Seaplanes on Unbroken Snow Conditions.....	AIR 2.12.6
– Landing Wheel-Equipped Light Aircraft on Snow Covered Surfaces.....	AIR 2.12.4
– Removal and Ice Control.....	AGA 1.1.4

SOTA	NAT 1.19.1
Southern and Northern Domestic Airspace	RAC 2.2.1
Sparsely Settled Areas	
– Flight Operations	AIR 2.14
– Single-Engine Aircraft Operating in Northern Canada	AIR 2.14.1
Special VFR Weather Minima	RAC 2.7.3
Speed	
– Adjustment – ATS Surveillance Controlled Aircraft	RAC 9.7.3
– Aircraft Speed Limit	RAC 2.5.2
Spins, Practice	AIR 4.3
Stabilized Approach	AIR 2.17.2
Standard	
– Instrument Departure (SID)	RAC 7.5
– Pressure Region	RAC 2.11
– Terminal Arrival (STAR)	RAC 9.2, 9.2.3
– Conventional STAR	RAC 9.2.3.1
– PBN STAR	RAC 9.2.3.2
Stop Bars	AGA 7.10.3
Stops, Intermediate	RAC 3.10
Stopway	
– Definition	AGA 3.8
Stopways	AGA 5.4.2
Straight-In Approach	RAC 9.15
Strobe Lights, Use of	AIR 4.6
Sunrise/Sunset	GEN 1.5.2
Supplement, <i>AIP Canada</i>	MAP 2.2
Surface Condition Reports	
– Aircraft Movement (AMSCR)	AIR 1.6.4
Survival	SAR 4.7.2
– Advisory Information	AIR ANNEX

T

Tactical Air Navigation (TACAN)	COM 4.8
Takeoff Clearance	RAC 4.2.8
Takeoff Distance Available (TODA)	AGA 3.10
Takeoff Minima	RAC 9.19.1
Takeoff Run Available (TORA)	AGA 3.10
Taxi	
– Holding Positions	RAC 4.2.6
– Holding Positions During IFR Operations	RAC 4.2.7
– Information	RAC 4.2.5
Taxiing	RAC 4.4.4
Taxiway	
– Bearing Strength	AGA 3.12
– Lighting	AGA 7.10
– Rapid-Exit	AGA 3.11,
– Rapid-Exit Taxiway Indicator Lights	AGA 7.9
TC AIM	
– Amendments–Future dates	GEN 1.1.4
– Content	GEN 1.1.3
– Co-ordinator	GEN 1.1.3
– Distribution, address changes and information requests	GEN 1.1.4
– Obtaining the commercial edition	GEN 1.1.4
TCAS I/TCAS II	COM 9.0
– TCAS/ACAS (Traffic Alert and Collision Avoidance Systems and Airborne Collision Avoidance Systems)	COM 9.0

– Airworthiness Approval	COM 9.5
– Mode S Transponder Approval and Unique Codes	COM 9.8
– Operational Approval	COM 9.4
– Pilot and Controller Interchange	COM 9.8
– Pilot/Controller Actions	COM 9.9
– Pilot Immunity from Enforcement Action for Deviating from Clearances	COM 9.7
– Transport Canada Policy	COM 9.2
– Use of	COM 9.3
Technical Records, Aircraft	LRA 2.6.3
Temperature Correction for Altimeter	GEN 9.17.1
Terminal Arrival Area (TAA)	RAC 9.2.2
Terminal Control Areas	RAC 2.7.6
Terminal Products	MAP 4.2.1, 4.2.2
Test Flights, Conduct of Experimental	AIR 4.2
Thresholds	
– Arrows	AGA 5.4.1
– Displaced Threshold Lighting	AGA 7.8.3
– Stopways	AGA 5.4.2
Thunderstorms	
– Flight Operations Near	AIR 2.7
Time	
– System	GEN 1.5
– Zone, UTC/Local	GEN 1.5.3
Traffic Circuit Procedures	
– Controlled Aerodromes	RAC 4.3
– NORDO/ONLY	RAC 4.5.8.2
– Uncontrolled Aerodromes	RAC 4.5.2
Transborder Flights	
– Flight Plan Requirements (Between Canada and a Foreign State)	RAC 3.5.3
Transfer – IFR Units to Towers	RAC 9.10
Transoceanic Flight – General Aviation Aircraft	NAT 1.2
Transition Areas	RAC 2.7.5
Transponder	
– Alerting	SAR 4.3
– Communication Failure	COM 8.7
– Emergencies	COM 8.6
– IFR Operations in Other Low-Level Airspace	COM 8.2
– Mode S, Approval and Unique Codes	COM 9.8
– Operation	COM 8.0
– Phraseology	COM 8.5
– Requirements	COM 8.2
– VFR Operations	COM 8.4
– Unlawful Interference (Hijack)	COM 8.8
– Regions – Addresses, Facsimile and Telephone Numbers	GEN 1.1.1
– Responsibilities	AGA 2.3.3
Transportation Appeal Tribunal of Canada (TATC)	LRA 6.0
– Refusal to issue or Amend a Canadian Aviation Document	LRA 6.2
– Suspension, Cancellation or Refusal to Renew	LRA 6.3
– Monetary Penalties	LRA 6.4
– Appeals	LRA 6.5

Transportation Safety Board of Canada (TSB)	GEN 3.0
– Addresses, Facsimile and Telephone Numbers	GEN 3.6
Tribunal – Transportation Appeal Tribunal of Canada (TATC)	LRA 6.0
True Airspeed (TAS)	RAC 8.3.2, NAT 1.7.2
Turbulence	MET 3.13
– Clear Air (CAT)	AIR 2.10
– Reporting Criteria Table	MET 2.2.2
– Pilot Waivers	RAC 4.1.1
– Wake	RAC 4.1.1, AIR 2.9
Turbulence, Downdraft and	AIR 1.5.7
Turn pad, Runway	AGA 3.6
Twilight Charts, Morning and Evening	GEN 1.5.2

U

Ultra-light Aeroplane	AIR 4.10
Uncontrolled Aerodromes	
– Aircraft Operations	RAC 4.5
– Class “G” Airspace	
– Recommended Operating Procedures	
– En-Route	RAC 8.11
– Helicopter Operations	RAC 4.5.3
– Initial Contact with Air-Ground Facility	RAC 9.11
– Licensing, Registration and Airworthiness	LRA 1.0
– Reporting Procedures (IFR)	RAC 9.12
– Traffic Circuit Procedures	RAC 4.5.2
Uncontrolled Airspace – Procedures (IFR)	RAC 9.13
Underwater Diving	AIR 3.6
UNICOM (Universal Communications)	RAC 1.2.1
– Approach UNICOM (AU)	RAC 1.2.1, MET 1.2.7
Units of Measurement	GEN 1.4
Unlawful Interference	COM 8.8, RAC 1.8.8
Unserviceable Area Markings	AGA 5.7
Upper Level	
– Charts (ANAL)	MET 9.0
– Wind and Temperature Forecasts (FD)	MET 1.3.8, 11.1

V

V Speeds	GEN 1.7
VASI (Visual Approach Slope Indicator)	AGA 7.6.2, AGA 7.6.4.2
Vertical Path Control on Non-Precision Approaches	AIR 2.17
Vertical Path Control Techniques	AIR 2.17.3
Vertigo	AIR 3.7
VFR	
– Acknowledgement of Clearances	RAC 5.2
– Aeronautical Information	MAP 2.5
– Altitudes and Flight Levels	RAC 5.3
– Controlled Airspace, Use of by VFR Flights	RAC 2.5.1
– En Route Procedures	RAC 5.0
– Flight Plan and Flight Itineraries	RAC 3.6, RAC 3.7.1
– Holding Procedures	RAC 4.4.2
– Minimum Altitudes	RAC 5.4, 5.5
– Operations within Class “C” Airspace	RAC 5.8

– Over-the-Top	RAC 2.7.4
– Position Reporting	RAC 5.1
– VFR Release of an IFR Aircraft	RAC 6.2.2
– Weather Minima	RAC 2.7.3, Fig. 2.7
VGM (Voice Generated Module)	RAC 4.5.1, RAC 9.12
VHF	
– Channel Spacing	COM 1.4
– In Lieu of International HF Air-Ground	
– Omnidirectional Range and Tactical Air Navigation (VORTAC)	COM 4.9
– Omnidirectional Range (VOR)	COM 4.5
Visibility, Ground	RAC 9.19.1
Vision	AIR 3.7
Visual	
– Alignment Guidance System (VAGS)	AGA 7.7.2
– Approach Slope Indicator Systems (VASIS)	AGA 7.6
– Climb and Descent	RAC 8.4.2
Visual Climb Over the Airport	RAC 7.7.1
Visual Signals	RAC 4.4.7
– Ground	RAC 4.3.11
– Ground-to-Air	SAR 4.7.1
– Intercepting and Intercepted Aircraft	SAR 4.6
– Marshalling for Aircraft and Helicopters	AIR 1.8
– Tower to Aircraft	RAC 4.2.11
Voice Generated Module (VGM)	RAC 4.5.1, 9.12
–	MET 8.6
Volcanic Ash	MET 2.5, 3.2.2, 13.0
– Flight Operations in	AIR 2.6
VOLMET	MET 1.4
VOR/DME (RHO-THETA) System	COM 5.13
VORTAC (VHF Omnidirectional Range and Tactical Air Navigation)	COM 4.9
Vortex	
– Characteristics	AIR 2.9.1
– Strength	AIR 2.9
Vortices, Helicopter	AIR 2.9
VOR	
– Airborne VOR Check	COM 4.5.3
– Check Point	COM 4.5.2
– Receiver Checks	COM 4.5.1

W

Wake Turbulence	RAC 4.1.1, AIR 2.9
Water	
– Operations on	AIR 2.11
– Operations Over, Life-Saving Equipment	AIR 2.11.3
Web, Transport Canada Site	GEN 1.1.4
Weather	
– ATC Weather Assistance	MET 1.3.8
– ATIS (Automatic Terminal Information Service)	RAC 1.3, 4.2.1
– Automated Reports – Other	MET 8.6
– Voice Generator Module (VGM)	MET 8.6
– Briefing, Flight Planning	RAC 3.2
– Charts, Reports	MET 3.2, 3.3
– Codes, significant	MET 8.3
– Flight Operation Near Thunderstorms	AIR 2.7

– Information	MET 3.0
– Minima Requirements, Alternate Aerodrome	RAC 3.14.1
– Minima, VFR	RAC 2.7.3, Fig. 2.7
– Observations, Surface	MET 8.0
– Pilot Report (PIREP)	MET 1.1.6, 2.2.1
– Radar	MET 1.3.9
– Reporting of Cloud Bases	MET 1.1.5
– Reports, Charts	MET 3.2, 3.3
– METAR (Routine Report)	MET 3.2, 8.0
– Special Reports (SPECI)	MET 8.4
– Surface Maps	MET 10.0
– Surface Weather Observing Service	RAC 1.1.3
– Symbols, Significant	MET 10.0
– TAF (Aerodrome Forecast)	MET 3.9
– Volcanic Ash	MET 2.5, 3.2, 13.0
– Flight Operations in	AIR 2.6
Weight and Balance Form	RAC 3.5
– Actual Weights	RAC 3.5.1
– Fuel and Oil Weights	RAC 3.5.2
– Passenger Standards	RAC 3.5
Wet Runways	RAC 4.4.9, AIR 1.6.5
Wheel-Equipped Light Aircraft on Snow-Covered Surfaces	AIR 2.12.4
Whiteout	AIR 2.12.7
Wind Direction Indicators (Wind Socks)	AGA 5.9
Wind	
– Pilot Estimate of Surface Wind	MET 2.6
– Beaufort Wind Scale	MET 2.6, Table 1
Wind Shear	MET 2.3
– Low-Level	AIR 2.8
Winter Operations – Aircraft Contamination	AIR 2.12.2
World Meteorological Organization (WMO) and ICAO	
– Applicable Documents	MET 1.1.7
121.5 MHz, Monitoring of Emergency Frequency	COM 1.4.2
126.7 MHz, Monitoring of	RAC 5.1

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**

glidepath intercept altitude

The published minimum altitude to intercept the glidepath in the intermediate segment of a vertically guided instrument approach (approach with vertical guidance [APV] and precision approach [PA] procedures).

“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.

identification

The process of ascertaining that a particular target is the ATS surveillance observation from a specific aircraft.

“identified”

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

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 play.

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 MTCAs 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**

precise final approach fix (PFAF)

The PFAF is a position located on the final approach course where the designed glidepath (APV and PA procedures) intercepts the intermediate segment altitude (glidepath intercept altitude). The PFAF marks the beginning of the final approach segment (FAS).

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.

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

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.

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 100 NM

The lowest altitude that may be used that will provide a minimum clearance of 1 000 ft (1 500 ft or 2 000 ft for appropriate designated mountainous region), under conditions of standard temperature and pressure, above all obstacles located in an area contained within a circle of 100 nautical mile radius of the aerodrome reference point.

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 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 overflown.

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.

vector

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

- also called: **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).

- (a) 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.
- (b) 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	AMSL	above mean sea level
AAIR	Annual Airworthiness Information Report	ANS	air navigation system
AAS	aerodrome advisory service	ANSP	air navigation service provider
ABAS	aircraft-based augmentation system	AOC	air operator certificate
AC	Advisory Circular	AOC	Aviation Operations Centre
ACA	Arctic Control Area	AOE	airport of entry
ACARS	aircraft communications addressing and reporting system	AOM	airport operations manual
ACAS	airborne collision avoidance system	APAPI	abbreviated precision approach path indicator
ACC	area control centre	APREQ	approval request
A-CDM	Airport Collaborative Decision Making	APRT	airport
ACSC	aircraft critical surface contamination	APV	approach procedure with vertical guidance
AD	Airworthiness Directive	ARCAL	aircraft radio control of aerodrome lighting
ADB	aviation document booklet	ARFF	Aircraft Rescue and Fire Fighting
ADCUS	“Advise customs”	ARP	aerodrome reference point
ADF	automatic direction finder	ASDA	accelerate-stop distance available
ADIZ	air defence identification zone	ASDE	airport surface detection equipment
ADS	automatic dependence surveillance	ASL	above sea level
ADS-B	automatic dependent surveillance - broadcast	ATA	actual time of arrival
ADS-C	automatic dependent surveillance - contract	ATC	air traffic control
ADS WPR	automatic dependent surveillance waypoint position report(ing)	ATF	aerodrome traffic frequency
AFCGS	automatic flight control guidance system	ATFM	air traffic flow management
AFCS	automatic flight control system	ATIS	automatic terminal information service
AFM	aircraft flight manual	ATM	air traffic management
AFN	air traffic services facilities notification	ATN	aeronautical telecommunications network
AFS	aeronautical fixed service	ATPL	airline transport pilot licence
AFTN	Aeronautical Fixed Telecommunications Network	ATS	air traffic service
AGL	above ground level	AU	approach UNICOM
AGN	aircraft group number	AVASI	abbreviated visual approach slope indicator
AIC	aeronautical information circular	AVGAS	aviation gasoline
AIM	Aeronautical Information Management (NAV CANADA)	AVOPS	Aviation Operations Centre
AIP	Aeronautical Information Publication	AWBS	Aviation Weather Briefing Service
AIRAC	Aeronautical Information Regulation and Control	AWOS	automated weather observation system
AIREP	air report	baro-VNAV	barometric vertical navigation
AIS	aeronautical information service	BCST	broadcast
ALR	aircraft load rating	BOTA	Brest oceanic transition area
ALSF-2	approach lighting with sequenced flashers–CAT II	BPL	balloon pilot licence
ALT	altitude	BVLOS	beyond visual line-of-sight
ALTRV	altitude reservation	C	Celsius
AM	amplitude modulation	CADORS	Civil Aviation Daily Occurrence Reporting System
AMA	area minimum altitude	CAE	control area extension
AME	aircraft maintenance engineer	CAME	Civil Aviation Medical Examiner
AMIS	aircraft movement information service	CAP	Canada Air Pilot
		CARs	Canadian Aviation Regulations
		CARAC	Canadian Aviation Regulation Advisory Council
		CARC	Civil Aviation Regulatory Committee
		CARS	community aerodrome radio station

CASARA	Civil Air Search and Rescue Association	DME	distance measuring equipment
CAT	clear air turbulence	DND	Department of National Defence
CAT I, II, III	Category I, II, III	DR	dead reckoning navigation
CAVOK	ceiling and visibility OK	DRCO	dial-up remote communications outlet
CDA	Canadian Domestic Airspace	DT	daylight saving time
CDA	departure clearance readback (data link)	DTW	downwind termination waypoint
CDFA	constant descent final approach	DVFR	defence visual flight rules
CDI	course deviation indicator	D-VOLMET	data link VOLMET
CFA	common frequency area	E	east
CFB	Canadian Forces base	EAD	European AIS Database
CFPS	Collaborative Flight Planning Service	EASA	European Aviation Safety Agency
CFS	<i>Canada Flight Supplement</i>	EAT	expected approach time
CFIT	controlled flight into terrain	ECAC	European Civil Aviation Conference
CG	centre of gravity	ECCC	Environment and Climate Change Canada
CLD	departure clearance message (data link)	EET	estimated elapsed time
CLDN	Canadian Lightning Detection Network	EFC	expected further clearance time
CMA	Central Monitoring Agency	ELT	emergency locator transmitter
CMAC	Canadian Meteorological Aviation Centre	EMAS	engineered material arresting system
CMC	Canadian Meteorological Centre	EMI	electromagnetic interference
CMNPS	Canadian minimum navigation performance specifications	ERS	Emergency Response Service
CMNPSA	Canadian minimum navigation performance specifications airspace	ESCAT Plan	Emergency Security Control of Air Traffic Plan
CMU	communications management unit (data link)	EST	Eastern Standard Time
CNS	communications, navigation, surveillance	EST (NOTAM)	estimated time (NOTAM)
CNOP	<i>Canadian NOTAM Operating Procedures</i>	ETA	estimated time of arrival
CPDLC	controller-pilot data link communications	ETD	estimated time of departure
C of A	certificate of airworthiness	ETE	estimated time en route
C of R	certificate of registration	EWH	eye-to-wheel height
CONOPS	concept of operations	FAA	Federal Aviation Administration (USA)
CPL	commercial pilot licence	FACF	final approach course fix
C.R.C.	Consolidated Regulations of Canada	FAF	final approach fix
CRFI	Canadian Runway Friction Index	FANS	future air navigation systems
CTA	control area	FARs	Federal Aviation Regulations (USA)
CTAISB	Canadian Transportation Accident Investigation and Safety Board	FATO	final approach and take-off area
CVFR	controlled VFR	FAWP	final approach waypoint
CWAS	Canada Water Aerodrome Supplement	FD	upper level wind and temperature forecast
CZ	control zone	FDE	fault detection and exclusion
DA	decision altitude	FE	flight engineer
DADS	digital altimeter display system	FIC	flight information centre
DAH	Designated Airspace Handbook (TP 1820E)	FIR	flight information region
D-ATIS	data link ATIS	FISE	flight information service en route
DCL	departure clearance (data link)	FL	flight level
DCPC	direct controller-pilot communications	FLAS	flight level allocation scheme
DF	direction finder	FM	frequency modulation
DH	decision height	FMC	flight management computer
DLM	data link mandate	FMS	flight management system
		FP	flight plan
		fpm	flash per minute

FPUI	flight plan unique identifier	ILS	instrument landing system
FPV	first-person view	IMC	instrument meteorological conditions
FRT	fixed radius transition	INF	inland navigation fix
FSM	flight system management (data link)	INS	inertial navigation system
FSS	flight service station	INTXN	intersection
FSTD	flight simulation training device	IRCC	Immigration, Refugees and Citizenship Canada
FTE	flight technical error	IRS	inertial reference system
GBAS	ground-based augmentation system	IRU	inertial reference unit
GEO	geostationary earth orbit (or geosynchronous equatorial orbit)	ISA	International Standard Atmosphere
GEO	geosynchronous earth orbit	ISED	Innovation, Science and Economic Development Canada
GES	ground earth station	IWP	intermediate approach waypoint
GFA	graphic area forecast	J or JET	high-level airway
GHz	gigahertz	JRCC	joint rescue co-ordination centre
GLONASS	global orbiting navigation satellite system	kg	kilogram
GMU	GPS monitoring unit	kHz	kilohertz
GNSS	global navigation satellite system	KIAS	knots indicated airspeed
GOTA	Gander oceanic transition area	kN	kilonewton
GP	glide path	kt	knot
GPL	glider pilot licence	LAAS	local-area augmentation system
GPS	global positioning system	LAHSO	Land and Hold Short Operations
GPWS	ground proximity warning system	LAWO	limited aviation weather observation
GS	glide slope	lb	pound
GYP	gyroplane pilot permit	LDA	landing distance available
HAA	height above aerodrome	LED	light-emitting diode
HAT	height above touchdown	LEO	low earth orbit
HDG	heading	LF	low frequency
HF	high frequency	LIAL	low intensity approach lighting
HFDL	HF data link	LIDAR	light detection and ranging
Hg	mercury	LLA	low-level airspace
HIAL	high intensity approach lighting	LOC	localizer
HIRO	high-intensity runway operations	LNAV	lateral navigation
HLA	high-level airspace	LP	localizer performance without vertical guidance
hPa	hectopascal	LPV	localizer performance with vertical guidance
HPL	horizontal protection limit	LRNS	long range navigation system
hr	hour	LVOP	low visibility operations plan
HSI	horizontal situation indicator	LWIS	limited weather information system
Hz	hertz	MA	missed approach
IAF	initial approach fix	MALS	medium intensity approach lighting system
IAP	instrument approach procedure	MALSF	medium intensity approach lighting system with sequenced flashing lights
IAS	indicated airspeed	MALSR	medium intensity approach lighting system with runway alignment indicator lights
IAWP	initial approach waypoint	MANAB	<i>Manual of Word Abbreviations</i>
ICAO	International Civil Aviation Organization	MANAIR	<i>Manual of Standards and Procedures for Aviation Weather Forecasts</i>
IF	intermediate fix	MANOBS	<i>Manual of Surface Weather Observations</i>
IFF	identification, friend or foe	MANOT	missing aircraft notice
IFR	instrument flight rules	MAP	missed approach point
IFSS	international flight service station		
IFT	instrument flight test		

MASPS	minimum aircraft system performance specification	NAT HLA	North Atlantic high-level airspace
MAWP	missed approach waypoint	NATO	North Atlantic Treaty Organization
mb	millibar	NAVAID	navigation aid
MCDU	multipurpose control and display unit	NCA	Northern Control Area
MCTOW	maximum certificated takeoff weight	NCATS	National Civil Air Transportation System
MDA	minimum descent altitude	NDA	Northern Domestic Airspace
MEA	minimum en route altitude	NDB	non-directional beacon
MEDEVAC	medical evacuation flight	NIC	navigation integrity category
MEHT	minimum eye height over threshold	NM	nautical mile
MEL	minimum equipment list	NOHD	Nominal Ocular Hazard Distance
MEO	medium earth orbit	NO PT	no procedure turn
METAR	aerodrome routine meteorological report	NORDO	no radio
MF	mandatory frequency	NPA	non-precision approach
MF	medium frequency	NRC	National Research Council Canada
MFAU	Military Flight Advisory Unit	NRP	North American Route Program
MHA	minimum holding altitude	NSE	navigation system error
MHz	megahertz	NUCp	navigation uncertainty category—position
MLAT	multilateration	NVIS	night vision imaging system
MLS	microwave landing system	NWP	numerical weather prediction
MM	middle marker	OAC	oceanic area control centre
MNPS	minimum navigation performance specifications	OAT	outside air temperature
MNPSA	minimum navigation performance specifications airspace	OBST	obstacle
MOA	military operations area	O/C	observer-communicator
MOC	minimum obstacle clearance	OCA	oceanic control area
MOCA	minimum obstacle clearance altitude	OCL	obstacle clearance limit
MPa	megapascal	OCS	obstacle clearance surface
mph	miles per hour	ODALS	omnidirectional approach lighting system
MRA	minimum reception altitude	ODL	opposite direction level
MRB	magnetic reference bearing	ODP	obstacle departure procedure
MSA	minimum sector altitude	OEP	oceanic entry/exit point
MSL	Mean Sea Level	OFZ	obstacle free zone
MTCA	military terminal control area	OIDS	operational information display system
MTOW	maximum take-off weight	OKTA	one-eighth
MTSAT	multifunctional transport satellite	OLS	obstacle limitation surface
MU	management unit (data link)	OPS	obstacle protection surface
MVA	minimum vectoring altitude	OTS	organized track system
MVFR	marginal visual flight rules	OTT	over-the-top
MWO	meteorological watch office	OXP	oceanic exit point
N	north	PAC	Pacific
NAARMO	North American Approvals Registry and Monitoring Organization	PAL	peripheral station
NACp	navigation accuracy category—position	PAPI	precision approach path indicator
NADP	noise abatement departure procedure	PAR	precision approach radar
NAR	North American route	PAS	private advisory station
NASA	National Aeronautics and Space Administration (USA)	PBN	performance-based navigation
NAT	North Atlantic	PCN	pavement classification number (ICAO)
		PDC	pre-departure clearance (data link)
		PDE	path definition error

PIC	pilot-in-command	RTIL	runway threshold identification lights
PIREP	pilot weather report	RWYCC	runway condition code
PLR	pavement load rating	RVOP	reduced visibility operations plan
PN	prior notice required	RVR	runway visual range
PPC	pilot proficiency check	RVSM	reduced vertical separation minimum
PPL	private pilot licence	RWS	reactive wind shear system
PPR	prior permission required	S	south
PPS	present position symbol	SA	selective availability
PRM	preferred routes message	SAR	search and rescue
PRN	pseudorandom noise	SATCOM	satellite communications
PSI	pounds per square inch	SATVOICE	satellite voice communications
PSR	primary surveillance radar	SBAS	satellite-based augmentation system
PSTN	public switched telephone network	SCA	Southern Control Area
PT	procedure turn	SCDA	stabilized constant descent angle
PWS	predictive wind shear system	SDA	Southern Domestic Airspace
R	radial	SELCAL	selective calling system
R	radius	SFOC	special flight operations certificate
RA	resolution advisory	SID	standard instrument departure
RAAS	remote aerodrome advisory service	SIF	selective identification feature
RAIM	receiver autonomous integrity monitoring	SIGMET	significant meteorological information
RAMO	regional aviation medical officer	SIL	source integrity level
RASS	remote altimeter setting source	SLOP	strategic lateral offset procedure
Rc	radius of containment	SM	statute mile
RCAP	Restricted Canada Air Pilot	SNR	signal-to-noise ratio
RCD	departure clearance request (data link)	SOPs	standard operating procedures
RCL	request for clearance	SORA	Specific Operational Risk Assessment
RCMP	Royal Canadian Mounted Police	SOTA	Shannon oceanic transition area
RCO	remote communications outlet	SPECI	aerodrome special meteorological report
REDL	runway edge lights	SPEC VIS	specified takeoff minimum visibility
RENL	runway end lights	SPI	special position indicator
RESA	runway end safety area	SPP	student pilot permit
RETIL	rapid-exit taxiway indicator lights	SSALR	simplified short approach lighting system with runway alignment indicator lights
RF	radius to fix	SSALS	simplified short approach lighting system
RLOS	radio line-of-sight	SSB	single sideband
RMI	radio magnetic indicator	SSR	secondary surveillance radar
RNAV	area navigation	STAR	standard terminal arrival
RNP	required navigation performance	STOL aircraft	short takeoff and landing aircraft
RNP APCH	required navigation performance approach	SVFR	special VFR flight
RNP AR APCH	required navigation performance authorization required approach	SVM	service volume model
RNPC	required navigation performance capability	SVN	satellite vehicle number
RONLY	receiver only	T	true
RPA	remotely piloted aircraft	TA	traffic advisory
RPAS	remotely piloted aircraft system	TAA	terminal arrival area
RPP	recreational pilot permit	TAC	terminal area chart
RRTU	radio re-transmit unit	TACAN	tactical air navigation aid
RSC	runway surface condition	TAF	aerodrome forecast
RTF	radiotelephony frequency	TAS	true airspeed

TATC	Transportation Appeal Tribunal of Canada	VDR	VHF data radio
TAWS	terrain awareness and warning system	VFR	visual flight rules
TC	Transport Canada	VGSS	voice generator sub-system
TC AIM	<i>Transport Canada Aeronautical Information Manual</i>	VHF	very high frequency
TCCA	Transport Canada Civil Aviation	VLF	very low frequency
TCA	terminal control area	VLOS	visual line-of-sight
TCAS I/II	traffic alert and collision avoidance system	VMC	visual meteorological conditions
TCH	threshold crossing height	VNAP	vertical noise abatement procedure
TCU	terminal control unit	VNAV	vertical navigation
TDOA	time difference of arrival	VNC	VFR navigation chart
TDZ	touchdown zone	VOLMET	in-flight meteorological information
TDZE	touchdown zone elevation	VOR	VHF omnidirectional range
TDZL	touchdown zone lighting	VORTAC	combination of VOR and TACAN
TIBA	traffic information broadcast by aircraft	VPA	vertical path angle
TLOF	touchdown and lift-off area	VTa	VFR terminal area chart
TMI	track message identification	VTOL aircraft	vertical takeoff and landing aircraft
TOD	top of descent	W	west
TODA	take-off distance available	WAAS	wide area augmentation system
TORA	take-off run available	WAFC	world area forecast centre
TP	Transport Canada publication	WAFS	world area forecast system
TRA	tower radar area	WMO	World Meteorological Organization
TRB	true reference bearings	WP	waypoint
TRP	tower radar plan	WPR	waypoint position report(ing)
TSB	Transportation Safety Board of Canada	WS	wind shear
TSE	total system error	zulu (Z)	Coordinated Universal Time
TSO	Technical Standard Order		
TSR	terminal surveillance radar		
TWR	control tower		
UAS	unmanned aircraft system		
UAV	unmanned air vehicle		
ULP	ultralight pilot permit		
UHF	ultrahigh frequency		
UNICOM	universal communications		
USB	upper sideband		
UTC	Coordinated Universal Time		
VAA	volcanic ash advisory		
VAAC	volcanic ash advisory centre		
VAGS	Visual Alignment Guidance System		
VAS	vehicle advisory service		
VASI	visual approach slope indicator		
VASIS	visual approach slope indicator system (generic term)		
VCOA	visual climb over the airport		
VCS	vehicle control service		
VDF	VHF direction finder		
VDI	vertical deviation indicator		
VDL	VHF digital link		

NOTES:

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

5.3 Legislation Index

This index provides a cross-reference between the CARs and corresponding TC AIM pages where relevant information can be found. Some administrative or enabling legislation has been omitted where it has been determined that knowledge of the rule is not required for aircraft operations.

The CARs section numbers contained throughout the text are those of the *Consolidated Regulations of Canada* (CRC), Chapter 2, as contained in the CARs.

Table 5.1—Relevant Cross-References Between CARs and TC AIM

CARs Subpart No.	CAR Name	TC AIM Paragraph No.
Part I	General Provisions	
103	Administration and Compliance	LRA 6.4, 6.5
Part II	Aircraft Identification and Registration and Operation of a Leased Aircraft by a Non-registered Owner	LRA 4.1, 4.6, 4.7
201	Identification of Aircraft and Other Aeronautical Products	LRA 4.2
202	Aircraft Marking and Registration	LRA 4.3, 4.7, 5.7.2
Part III	Aerodromes, Airports and Heliports	
301	Aerodromes	AGA 2.1, 7.3
302	Airports	AGA 2.3.6
Part IV	Personnel Licensing and Training	
403	Aircraft Maintenance Engineer Licences and Ratings	LRA 5.4.2
406	Flight Training Units	LRA 5.6.1
421	Flight Crew Permits, Licences and Ratings	LRA 1.1, 1.5, 1.6, 1.7, 1.12, 1.14.4
424	Medical Requirements	LRA 1.1, 1.9, 2.1.1, 2.2
Part V	Airworthiness	
501	Annual Airworthiness Information Report	LRA 5.5
507	Flight Authority and Certificate of Noise Compliance	LRA 5.1, 5.3.1, 5.3.3, 5.3.4, 5.3.5
521	Approval of the Type Design or a Change to the Type Design of an Aeronautical Product	LRA 5.2.2
521 Division IX	Service Difficulty Reporting	LRA 5.6.5
571	Aircraft Maintenance Requirements	LRA 5.4.1, 5.6.3, 5.6.4

CARs Subpart No.	CAR Name	TC AIM Paragraph No.
Part VI	General Operating and Flight Rules	RAC 3.1
601	Airspace	RAC 2.8, 2.8.6, 2.9.2
602	Operating and Flight Rules	COM 1.3, 9.7, MET 1.1.9, RAC 1.6, 1.8, 1.9, 2.3.1, 2.5.2, 2.7.3, 2.7.4, 2.9.3, 2.10, 2.11, 2.12, 2.13, 3.1, 3.6.1, 3.6.2, 3.7.1, 3.7.2, 3.9, 3.12, 3.12.1, 3.13, 3.14, 4.1, 4.1.2, 4.2.5, 4.3, 4.4.8, 4.5.2, 4.5.4, 4.5.7, 5.4, 5.5, 6.1, 8.1, 8.3, 8.4, 8.5, 9.6.1, 9.7.3, 9.11, 9.12, 9.18.1, 9.19.1, 9.19.2.1, 9.19.2.2, 9.19.2.3, 9.19.2.5, 9.19.2.6, 9.19.3, 10.7, 10.9, RAC Annex 2.0, NAT 1.1.1, 1.2, SAR 3.9, 4.7, 4.8.2, AIR 2.11.3, 2.17.3, 4.4.2, 4.8, 4.9, 4.13, 4.15, 4.15.3
603	Special Flight Operations	RAC 1.9, 2.5.2, AIR 4.7.1, 4.8
604	Private Operator Passenger Transportation	COM 5.4, 9.2, RAC 9.18, LRA 5.6.1
605	Aircraft Requirements	COM 8.2, RAC 2.7.4, RAC Annex 2.0, SAR 3.1, 3.3, 3.9, LRA 5.3.1, 5.4.1, 5.6.1, 5.6.2, 5.6.4, 5.7.1, 5.7.3
625	Aircraft Equipment and Maintenance Standard	LRA 5.4.1, 5.4.2, 5.6.2, 5.7.1
Part VII	Commercial Air Services	RAC 9.18, 9.19
703	Air Taxi Operations	COM 9.2, RAC 3.5.1, 3.5.7, AIR 4.4.2
704	Commuter Operations	COM 9.2, AIR 4.4.2
705	Airline Operations	COM 9.2, AIR 4.4.2
706	Aircraft Maintenance Requirements for Air Operators	LRA 5.6.1
Part VIII	Air Navigation Services	GEN 1.3.1, RAC 2.1, NAT 1.1.2

5.4 Canadian Aviation Regulation Advisory Council (CARAC)

5.4.1 General

This part outlines the TCCA regulatory consultation process. The TCCA advisory council is known as CARAC. The Director General, Civil Aviation is the sponsor of CARAC. The Council was established on July 1, 1993.

5.4.2 Governing Principles

The *Cabinet Directive on Regulatory Management* published by the Treasury Board of Canada requires TC (and other federal departments) to engage at all stages of the rulemaking process. TCCA engages stakeholders on regulatory initiatives through CARAC, and as such, CARAC is an important part of TC's rulemaking consultation process.

CARAC's main governing principle is to maintain or improve upon Canada's high level of aviation safety.

New proposals, including public interest issues, are judged on the safety and efficiency that would result from their implementation. Proposals are also assessed at an early stage to determine where the development and approval processes can be streamlined and where resources should be focused.

5.4.3 Objective

CARAC's prime objective of assessing and recommending potential regulatory changes through cooperative rulemaking activities is accomplished through:

- (a) communicating and seeking industry input on TCCA's rulemaking and strategic priorities;
- (b) identifying critical or contentious issues that indicate a need to examine and revise, where necessary, existing regulations, policies, standards or procedures to maintain or improve aviation safety in Canada;
- (c) soliciting and identifying aviation industry needs for full consideration through direct involvement and consultation;
- (d) developing and maintaining administrative tools in order to engage the aviation industry at various stages of the rulemaking process;
- (e) eliminating, wherever possible, constraints to system safety and allowing for efficiency through regulations and standards to reduce complexity and increase the productivity of the overall aviation safety system;
- (f) minimizing the regulatory burden where safety is not compromised;
- (g) maximizing, to the extent practicable, the compatibility of the Canadian regulatory system with that of other regulatory authorities (e.g. ICAO standards and recommended practices, FAA, EASA) where safety or efficiency benefits can be derived; and
- (h) transmitting comprehensive and accurate information to the aviation industry in a timely manner.

5.4.4 Organizational Structure

CARAC is a joint undertaking of government and the aviation community for formal consultations with aviation stakeholders on all aspects of rulemaking activities. The participation of a large number of organizations and individuals is sought to represent the overall viewpoint of the aviation community. Participants include management and labour organizations that represent air operators, manufacturers, and professional associations.

5.4.4.1 Focus Group

A focus group reviews technical or safety policy issues; provides technical expertise; conducts risk assessments; and develops possible solutions and recommendations within the scope of a defined terms of reference. Focus group members are comprised of selected subject matter experts from the industry and TC. A focus group is established based on the results of a preliminary issue and consultation assessment.

5.4.4.2 Special Technical Committee

A special technical committee provides advice and recommendations to TCCA's management team on regulatory issues and formal regulatory proposals. A special technical committee discusses policy objectives and supportive documentation. Membership is comprised of representatives from the aviation community, other interested parties and TC. A special technical committee can be established based on the results of a preliminary issue and consultation assessment.

5.4.4.3 Canadian Aviation Regulation Advisory Council (CARAC) Plenary

The CARAC plenary provides an open forum for the aviation industry and TC to exchange on the content and execution of TCCA's rulemaking and strategic priorities in light of the operational and emerging technological needs of the aviation industry.

5.4.4.4 Transport Canada Civil Aviation (TCCA) Management Team

The TCCA management team has the responsibility to identify and prioritize regulatory issues and to consider, approve and direct the implementation of recommendations made by CARAC focus groups and special technical committees, as applicable.

The Director, Standards or the Director, Policy and Regulatory Services assesses proposals and supportive documentation before they are submitted to a focus group or special technical committee. The relevant director appoints the focus group leader and chairs the special technical committee meetings. They are responsible for reporting the outcome of a focus group or special technical committee meeting to the TCCA management team. The Director, Policy and Regulatory Services is responsible for managing the CARAC process and for ensuring that the aviation industry representatives are sufficiently diverse in order to gather a range of views and expertise.

5.4.4.5 Secretariat

The Secretariat establishes, implements and maintains all systems required to allow CARAC to properly function. The Secretariat is managed by Policy and Regulatory Services and serves as the focal point for consultations on civil aviation regulatory development issues within TC.

5.4.5 Project Resources

Apart from the full-time Secretariat, resource support is solicited from within TCCA and the aviation community, as required. Costs incurred by stakeholder organizations participating in a CARAC focus group, special technical committee or plenary are expected to be borne by those organizations. The CARAC Secretariat will provide, where available, meeting facilities and administrative support, such as decision records.

5.4.6 Communication

Comprehensive and timely communications are given top priority. The appropriate and timely participation of representatives from the aviation community and from within TC in the CARAC process is key to an effective consultation process with the aviation community.

The CARAC Activity Reporting System, accessible at <http://wwwapps.tc.gc.ca/Saf-Sec-Sur/2/NPA-APM/crs.aspx>, provides supportive documentation on any given issue that aviation stakeholders were consulted on. These documents include preliminary issue and consultation assessments, notice of proposed amendments, focus group reports, decision records and documents presented at the plenary.

5.4.7 Information

The information presented in this part is in the process of being published in greater detail in a revised *CARAC Management Charter and Procedures*. Those interested in becoming CARAC members or wishing to obtain more information about CARAC may contact the CARAC Secretariat by mail, telephone or e-mail at:

Transport Canada (AARBH)
CARAC Secretariat
330 Sparks Street
Ottawa ON K1A 0N8

Tel.:613-990-1847
E-mail:carrac@tc.gc.ca

6.0 Aviation Operations Centre (AOC)

6.1 Aviation Operations Centre (AOC)—Civil Aviation Accident, Occurrence and Incident Reporting

The Aviation Operations Centre (AOC) monitors the national civil air transportation system (NCATS) 24 hours a day, seven days a week and responds to NCATS emergencies that require the attention or coordination of concerned functional branches, including regional offices and other departments or agencies. The AOC is the initial point of contact for all aviation-related occurrences. It receives reports on accidents, occurrences and any incidents that occur within the NCATS from various sources, including NAV CANADA, airport authorities, Public Safety Canada, law enforcement agencies, other government departments, foreign governments, and the general public. These reports are continuously monitored and then distributed to the appropriate functional areas of Transport Canada Civil Aviation (TCCA) for review, trend analysis, investigation (if necessary), and final inclusion in the Civil Aviation Daily Occurrence Reporting System (CADORS).

Reports requiring a regional, modal, multi-modal, inter-departmental, or an outside agency's attention are immediately forwarded to that agency for further action. For more information about the AOC, please see *AIP Canada* ENR 1.14 available on the NAV CANADA Web site.

To report an aircraft accident, occurrence or incident, contact the AOC 24 hours a day, seven days a week at:

Tel. (toll-free):1-877-992-6853
Tel.:613-992-6853
Fax (toll-free):1-866-993-7768
Fax:613-993-7768

<http://wwwapps.tc.gc.ca/saf-sec-sur/2/IR-RI/av_i_r.aspx?lang=eng>.

7.0 Civil Aviation Communications Centre

We have streamlined our service delivery processes in order to improve efficiencies, and as a result of these changes, the aviation community and the public will report issues or concerns through the Civil Aviation Communications Centre, which currently provides a central point of contact for email and phone requests about the Program. Please contact us by the methods outlined below:

Requests to:

[Civil Aviation Communications Centre contact form](#)

In an effort to maintain confidentiality, steps have been taken by the communication centre to handle confidential enquiries, but incoming submission must be clearly marked as confidential in the title and body of the submission.