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(05/2025)

Study and Reference Guide

for written examinations
for the

Private Pilot Licence

Aeroplane

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General

Purpose of This Guide

TP 12880 is meant to provide guidance to help individuals prepare for the written exam required for a Canadian Private Pilot Licence (PPL - A). The guide covers topics in the sections of Air Law, Navigation, Meteorology, and Aeronautics - General Knowledge. The topics listed are not meant to be a detailed and exhaustive list, it is important for candidates to be knowledgeable in all these areas to ensure they are well-prepared and capable of successfully passing the written examination and achieving their goal of becoming safe licensed private pilots.

Knowledge Requirements

All subjects in this guide are considered to be important to applicants for the Private Pilot Licence–Aeroplane and may appear on the exam. Subject areas identified by a bullet (✈) are considered essential knowledge.

Examination Prerequisites

CAR 401.13

(1) Prior to taking a written examination, an applicant for a flight crew permit, licence or rating shall meet the prerequisites for the examination set out in the personnel licensing standards with respect to

(a) medical fitness

(b) identification

(c) a recommendation from the flight instructor who is responsible for the training of the applicant; and

(d) experience.

(2) The applicant for a flight crew permit, licence or rating must be sufficiently competent in one of the official languages to be able to read the examination questions and to write the answers without assistance.

Exemptions to the Canadian Aviation Regulations (CARs)

https://tc.canada.ca/en/aviation/reference-centre/exemptions-canadian-aviation-regulations-cars

Examination Rules

CAR 400.02

(1) Except as authorized by an invigilator, no person shall, or shall attempt to, in respect of an examination,

(a) copy or remove from any place all or any portion of the text of the examination;

(b) give to or accept from any person a copy of all or any portion of the text of the examination;

(c) give help to or accept help from any person during the examination;

(d) complete all or any portion of the examination on behalf of any other person; or

(e) use any aid or written material during the examination.

(2) A person who commits an act prohibited under subsection (1) fails the examination and may not take any other examination for a period of one year.

Materials Required

A pencil is required for rough work. Electronic calculators are useful and are permitted if their memory is cleared before and after the examination. Computers capable of storing text are not approved. Navigation tools (ruler/scale, protractor, flight computer) are required for the navigation questions. A list of accepted electronic computers for flight crew examinations is available at: https://tc.canada.ca/en/aviation/licensing-pilots-personnel/flight-crew-licences-permits-ratings/accepted-electronic-computers-flight-crew-examinations

Time Limits

Examinations, including all sections of a sectionalized examination, that are required for the issuance of a permit or licence or for the endorsement of a permit or licence with a rating shall be completed during the 24-month period immediately preceding the date of the application for the permit, licence or rating.

How to Book a Flight Crew Exam

https://tc.canada.ca/en/aviation/licensing-pilots-personnel/flight-crew-licences-permits-ratings/how-book-flight-crew-exam

List of Authorized Examination Invigilators (AEI)

https://tc.canada.ca/en/aviation/licensing-pilots-personnel/flight-crew-licences-permits-ratings/how-book-flight-crew-exam#find an aei

Book an Exam at a Transport Canada Center

If the exam can't be administered by an AEI, use Transport Canada's online exam booking tool.

1) Have your pilot licence or file number ready. The file number will begin with "5802".
2) Once on the exam booking webpage, choose your exam, location, and date, provide your contact information and attest that you meet the required eligibility criteria.
3) Follow the prompts to submit your payment.

Once a booking is confirmed through payment, you'll receive confirmation by email. You will also get an email reminder 3 business days before the exam date.

Book online: https://examens-aviation-exams.tc.canada.ca/en/schedule/step1

Rewriting of Examinations

CAR 400.04 (1)
Subject to subsections (2) and (6), a person who fails an examination or a section of a sectionalized examination required for the issuance of a flight crew permit, licence, rating or foreign licence validation certificate is ineligible to rewrite the examination or the failed section for a period of

(a) in the case of a first failure, 14 days;

(b) in the case of a second failure, 30 days; and

(c) in the case of a third or subsequent failure, 30 days plus an additional 30 days for each failure in excess of two failures, up to a maximum of 180 days.

(2) A person who fails the Student Pilot Permit or Private Pilot Licence for Foreign and Military Applicants, Aviation Regulations (PSTAR) examination is eligible to rewrite the examination at any time after the person has received notice of the failure and has reviewed their weak knowledge areas.

(6) If a person submits a request to the Minister to shorten the period between examination attempts, the Minister shall grant the request on receipt of confirmation that the person has reviewed their weak knowledge areas.

Examination Feedback

Feedback statements on the results letter will inform the candidate which questions were answered incorrectly.

Example of a Feedback Statement: Identify the atmospheric conditions favorable for thunderstorm formation.

Examinations

Full Examinations

Applicants for the Private Pilot Licence–Aeroplane Category shall demonstrate their knowledge by writing a Transport Canada multiple-choice examination on subjects contained in this guide. Applicants must be able to read the examination questions in either English or French without assistance.

Examination	Questions	Time Limit	Pass Mark
Private Pilot–Aeroplane (PPAER)	100	3 hours	60%

This examination is sectionalized into four mandatory subject areas and requires an overall pass mark of 60%. As well, the candidate must achieve 60% in the following four subject areas:

Mandatory Subjects

Air Law	Air Law and Procedures
Navigation	Navigation and Radio Aids
Meteorology	Meteorology
Aeronautics - General Knowledge	Airframes, Engines, and Systems Theory of Flight Flight Instruments Flight Operations Human Factors

Questions fall under one of the four mandatory subject areas. However, there may be occasions where knowledge from another section is required to arrive at the correct response. For example, a practical question on fuel calculations under Navigation may require knowledge of VFR fuel requirements under Air Law.

Applicants who obtain less than 60% on the overall examination will, for licensing purposes, be required to rewrite the complete exam, as specified in CARs 421.26.

Supplementary Examinations

Applicants who obtain 60% or more on the main examination (PPAER), but who fail one or more mandatory subject areas will be assessed a partial pass. During one sitting, they will be required to write supplementary examinations for each subject area failed. Details on the mandatory subject area supplementary examinations are as follows:

Examination	Questions	Time Limit	Pass Mark
Air Law (PALAW)	20	1 hour	60%
Navigation (PANAV)	20	2 hours	60%
Meteorology (PAMET)	30	1½ hours	60%
Aeronautics– General Knowledge (PAGEN)	30	1½ hours	60%

NOTE: When writing more than one supplementary examination, the maximum time allowed shall be the sum of the times indicated for each examination, not to exceed 3 hours.

Helicopter to Aeroplane Examination

Pilots who hold a valid Private, Commercial or Airline Transport Pilot Licence in the Helicopter Category and who wish to apply for a Private Pilot Licence–Aeroplane shall demonstrate their knowledge by writing the following Transport Canada multiple choice examination.

Examination	Questions	Time Limit	Pass Mark
Private Pilot Aeroplane –Alternate Category (PARAC)	35	1½ hours	60%

The PARAC examination is based on subjects contained in Air Law and Aeronautics - General Knowledge (Airframes, Engines and Systems, Theory of Flight, Flight Instruments and Flight Operations).

Conversion Examination, United States of America FAA Pilot Certificate – Aeroplane

Pilots who hold a FAA Private Pilot Certificate, Commercial or Airline Transport Pilot Certificate – Aeroplane, shall demonstrate their knowledge by writing the following Transport Canada multiple choice examination:

Examination	Questions	Time Limit	Pass Mark
Conversion - Private Pilot Licence – Aeroplane, (FAAPA)	20	1 hour	60%

The FAAPA examination is based on subjects contained in the Air Law and procedures section of this study and reference guide. Candidates should read the recommended references on pages 25 and 26 as they apply to aeroplanes.

Air Law

Air Law and Procedure

Canadian Aviation Regulations (CARs)

Some *Canadian Aviation Regulations* (CARs) refer to their associated standards. Questions from the CARs may test knowledge from the regulation or the standard.

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Meteorology

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2 Errors
3 Limitations
4 Power sources

Electronic Flight Instrument System (EFIS)

1 Principles of operations
2 Errors
3 Limitations
4 Power sources

Instrument Flying

1 Loss of visual reference
2 The control and performance instruments
3 Instrument scan and interpretation
4 Aircraft control
5 Unusual attitudes and recoveries

Flight Operations

General

1 Pilot-In-Command responsibilities
2 Winter operations
3 Thunderstorms avoidance
4 Mountain flying operations
5 Collision avoidance – use of landing lights
✈ 6 Runway numbering
✈ 7 Displaced threshold
8 Airport rotating beacon
✈ 9 Visual Approach Slope Indicator Systems (VASIS): VASI, AVASI, PAPI, and APAPI
10 Obstruction marking and lighting
11 Units of measurements and conversion
12 Radio communications
✈ 13 Wheelbarrowing
✈ 14 Porpoising
✈ 15 Hydroplaning
✈ 16 Taxiing
✈ 17 Effects of wind and wind shear
✈ 18 Sideslips

Use of Performance Charts

✈ 1 Take-off charts
✈ 2 Crosswind charts
✈ 3 Canadian Runway Friction Index (CRFI)
✈ 4 Cruise charts
5 Fuel burn charts
✈ 6 Landing charts
✈ 7 Performance (V) speeds – Va, Vno, Vfe, Vlo, Vne, Vs, Vx, Vy
8 Effect of ice, snow, frost, slush, water on takeoff and landing distance
✈ 9 Effect of various runway surfaces on take-off and landing distance
10 Upslope, downslope runway

Aircraft Performance

✈ 1 Effects of aircraft critical surface contamination
2 Lift/drag ratio
✈ 3 Effects of density altitude and humidity
4 Attitude plus power equals performance
5 Normal, short, soft, and rough field take-offs and landing
✈ 6 Ground effect
✈ 7 Best angle of climb (Vx)
✈ 8 Best rate of climb (Vy)
✈ 9 Manoeuvring speed (Va)
10 Normal operating limit speed (Vno)
11 Never exceed speed (Vne)
12 Maximum flap speed (Vfe)
✈ 13 Reference landing speed (Vref)
14 Maximum gear operating speed (Vlo)
15 Gliding for range
16 Flying for range
17 Flying for endurance
✈ 18 Slow flight
✈ 19 Stalls
✈ 20 Indicated and true stalling speed
✈ 21 Stall speed vs altitude
✈ 22 Spins
✈ 23 Spirals
24 Recommended safe recovery altitudes
25 Bank/speed vs rate/radius of turn
✈ 26 Effects of change of weight or centre of gravity (CG) on performance
27 Use of aircraft flight manual and approved operational information
28 Use of unapproved operational information
29 External loads (e.g. miniature cameras)

Weight and Balance

1 Terms – e.g. datum, arm and moment
2 Standard weights
✈ 3 Locating CG
✈ 4 CG limits
5 Empty weight and gross weight
6 Maximum landing weight
✈ 7 Load adjustment
8 Cargo tie-down and passenger loading
✈ 9 Normal and utility category
✈ 10 Zero fuel calculation
✈ 11 Maximum zero fuel weight

Wake Turbulence

✈ 1 Causes
✈ 2 Effects
✈ 3 Avoidance

Search and Rescue (SAR)

(TC AIM – SAR Information)

1 Types of service available
✈ 2 Use of ELT
3 Aircraft emergencies
4 Survival – Basic techniques

Aircraft Critical Surface Contamination

✈ 1 Clean aircraft concept
2 Frozen contaminants and removal techniques
✈ 3 Cold-Soaking Phenomenon
4 Pre-takeoff contamination inspection
5 Types of ice
6 De-Icing/Anti-Icing Fluids - Type I, II, III, IV
7 Correct uses of de-icing and anti-icing fluids

Human Factors

Aviation Physiology

- ✈ 1 Hypoxia and hyperventilation
- 2 Gas expansion effects
- 3 Decompression (including SCUBA diving)
- ✈ 4 Visual scanning techniques / Visual references
- 5 Hearing
- ✈ 6 Orientation and disorientation (Including visual and vestibular illusions)
- 7 Positive and negative “G”
- 8 Sleep and fatigue
- 9 Anaesthetics
- 10 Blood donations

The Pilot and the Operating Environment

- 1 Individual health and fitness
- 2 Diet, nutrition and fasting
- ✈ 3 Medications (prescribed and over the counter)
- ✈ 4 Substance use (alcohol, drugs, and intoxicants)
- 5 Pregnancy
- 6 Heat and cold
- 7 Noise and vibration
- 8 Effects of smoking and vaping
- ✈ 9 Toxic hazards (including carbon monoxide)

Aviation Psychology

- 1 The decision-making process
- ✈ 2 Factors that influence decision-making
- ✈ 3 Situational awareness
- ✈ 4 Stress
- ✈ 5 Risk Management
- ✈ 6 Threat and error management
- 7 Hazardous attitudes
- ✈ 8 Workload (attention and information processing)

Pilot – Equipment and Materials Relationship

- 1 Controls and displays – errors in interpretation and control
- ✈ 2 Maps and charts - errors in the interpretation and use
- ✈ 3 Interaction with automation, electronic flight bags, GNSS/GPS moving maps
- 4 Correct uses of checklists and manuals

Interpersonal Relations

- 1 Communications with ground personnel, maintenance personnel, air traffic services, and passengers
- 2 Family relationships and peer group pressures and goal conflicts

Recommended Study Material

- Sample Examination for Private Pilot Licence (TP 13014E)
- Flight Training Manual (TP 1102E)
- Aeronautical Information Manual (TC AIM) (TP 14371E)
- Canadian Aviation Regulations (CARs)
- Human Factors for Aviation - Basic Handbook (TP 12863E)
- Student Pilot Permit or Private Pilot Licence for Foreign and Military Applicants, Air Regulations (PSTAR) (TP 11919E)
- VFR Phraseology Guide by NAV CANADA https://www.navcanada.ca/en/vfr-phraseology.pdf
- Flight Crew Recency Requirements Self-Paced Study Program (on tc.gc.ca website)
- RCAF Weather Manual (TP 9352E) (Formerly known as *Air Command Weather Manual*)
- MANAB Manual of Word Abbreviations
- Aviation Meteorology Reference (AVMET) by Nav Canada https://avmet.navcanada.ca/
- When in Doubt… Small and Large Aircraft - Aircraft Critical Surface Contamination Training (TP 10643E)
- Handbook for Civil Aviation Medical Examiners (TP 13312E)
- Canada Flight Supplement (CFS)
- VFR Navigation Charts (VNC) / VFR Terminal Area Charts (VTA)
- How to use NAV CANADA Aeronautical Information Products https://www.navcanada.ca/en/how-to-use-nav-canada-aeronautical-information-products.pdf
- AIP Canada: Part 1 GEN, Part 2 ENR, and Part 3 AD
- Aeronautical Information Circulars published by NAV CANADA
- Designated Airspace Handbook (DAH) (TP – 1820E)
- Aerodrome Standards and Recommended Practices (TP 312E)
- AC 700-065 – Potential for High Energy Fires Due to Lithium-Ion Batteries
- AC 500-004 – External Loads on Aeroplanes – Approval Process and Flight Test Considerations
- AC 700-020 – Electronic Flight Bags
- AC 700-031 – Prevention and Recovery from Aeroplane Stalls
- The Use of Automobile Gasoline (MOGAS) (TP 10737E)
- Aviation Safety Letter (on tc.gc.ca website)

The Study Guide (RIC-21) for the Radiotelephone Operator's Restricted Certificate (Aeronautical) is available free of charge from Innovation, Science and Economic Development Canada - Examination and Radio Licensing (https://ised-isde.canada.ca/).

Information on textbooks and other publications produced by commercial publishers can be obtained through local flight training units, bookstores, and similar sources.

Recommended Study Material for the FAA Conversion Examination

Candidates attempting the examination for conversion from an FAA certificate to a Canadian Private pilot licence (FAAPA examination) are encouraged to review the following references as they apply to aeroplanes in VFR operations:

CARs Part I, Subpart 1 — **General Provisions**
101.01 - Interpretation (definitions as needed)

CARs Part IV, Subpart 1 — **Flight Crew Permits, Licences and Ratings**
401.05 – Recency Requirements
401.26 – Private Pilot Licence, Aeroplanes – Privileges

CARs Part IV, Subpart 4 — **Medical Requirements**
404.04 – Issuance, Renewal, Validity Period and Extension of a Medical Certificate

CARs Part VI, Subpart 1 — **Airspace**
Division I – Airspace Structure, Classification and Use
Division II – Aircraft Operating Restrictions and Hazards to Aviation Safety

CARs Part VI, Subpart 2 — **Operating and Flight Rules**
Division I – General
Division II – Operational and Emergency Equipment Requirements
Division III – Flight Preparation, Flight Plans and Flight Itineraries
Division IV – Pre-Flight and Fuel Requirements
Division V – Operations at or in the Vicinity of an Aerodrome
Division VI – Visual Flight Rules
Division VIII – Radiocommunications
Division IX – Emergency Communications and Security

CARs Part VI, Subpart 5 — **Aircraft Requirements**
Division I – Aircraft Requirements – General
Division II – Aircraft Equipment Requirements

TC AIM – GEN	**General** 1.0 – General Information 3.0 – Transportation Safety Board of Canada
TC AIM – AGA	**Aerodromes** 7.14 – Aerodrome Lightning – Aircraft Radio Control of Aerodrome Lightning (ARCAL)
TC AIM – COM	**Communications** 1.7 – Voice Communications – Phone Use During Radio Communications Failure
TC AIM – RAC	**Rules of the Air and Air Traffic Services** 2.0 – Airspace – Requirements and Procedures 3.6 – Flight Planning – Changes to the Information in a Flight Plan or Flight Itinerary 3.11 – Closing a Flight Plan 4.0 – Airport Operations 5.0 – VFR En Route Procedures
TC AIM – SAR	**Search and Rescue** 3.9 – ELT – Schedule of Requirements
TC AIM – MAP	**Aeronautical Charts and Publications** 2.0– Aeronautical Publications 2.3 – *AIP Canada* Aeronautical Information Circulars
TC AIM – LRA	**Licensing, Registration and Airworthiness** 1.12 – Flight Crew Licensing – Recency Requirements
TC AIM – AIR	**Airmanship** 1.6 – General Information – Canadian Runway Friction Index (CRFI) 2.12 – Flight Operations – Flight Operations in Winter

Enquiries

Information concerning the location of pilot training organizations and matters pertaining to flight crew licensing may be obtained by contacting the appropriate Regional Offices. A complete listing may be found at:
https://tc.canada.ca/en/aviation/civil-aviation-contacts-offices

Letter of Recommendation for the Private Pilot Licence (Aeroplane) Written Examination

Name of Candidate (Print)	File Number
Name of Recommending Flight Instructor, Licence Number, and Instructor Class (Print)	
Flight Training Unit Name and Number (if applicable). (Print)	

To Whom it may Concern,

This is to certify that the candidate has completed the ground school instruction, and has reached a sufficient level of knowledge to attempt the written examination for a private pilot licence – aeroplane. *(CAR 421.13 (3) (a))*

The requirements as per CAR Standard 421.13 have been reviewed and confirmed as having been met to qualify for the written examination, and this letter is signed by a flight instructor with a valid license and rating. *(CAR 401.05, 421.05, 421.66)*

Flight time *(CAR 421.13 (4) (a))*: _____

Yours truly,

_____

Signature, and date (within 60 days prior to the date of the written examination)

Note: *The candidate should present this letter, together with photo-ID, proof of medical fitness and training/experience, and the appropriate examination fee, to the invigilating officer at any Transport Canada authorized examination centre.*

Letter of Recommendation for the Private Pilot Licence (Aeroplane) Supplementary Written Examination

Name of Candidate (Print)	File Number
Name of Recommending Flight Instructor, Licence Number and Instructor Class (Print)	
Flight Training Unit Name and Number (if applicable). (Print)	

To Whom it may Concern,

This is to certify that the candidate has received additional training, and has reached a sufficient level of knowledge to re-attempt the written examination for a private pilot licence – aeroplane for the following supplementary examination(s): *(CAR 400.04)*

☐ Air Law ☐ Meteorology

☐ Navigation ☐ Aeronautics – General Knowledge

The requirements as per CAR Standard 421.13 have been reviewed and confirmed as having been met to qualify for the written examination. This letter is signed by a flight instructor with a valid license and rating. *(CAR 401.05, 421.05, 421.66)*

Flight time *(CAR 421.13 (4) (a))*: _____

Yours truly,

_____

Signature, and date (within 60 days prior to the date of the written examination)

Note: *The candidate should present this letter, together with photo-ID, proof of medical fitness and training/experience, and the appropriate examination fee, to the invigilating officer at any Transport Canada authorized examination centre.*