Study and Reference Guide

Recreational Pilot Permit

Aeroplane

Fourth Edition

November 2002
GENERAL

KNOWLEDGE REQUIREMENTS

All subjects in this guide are considered to be important to applicants for the Recreational Pilot Permit – Aeroplane and may appear on the exam. Subject areas identified by a bullet (•) are essential knowledge areas that will be emphasized on the written examination.

EXAMINATIONS

Applicants for the Recreational Pilot Permit – Aeroplane 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.

<table>
<thead>
<tr>
<th>Examination</th>
<th>Questions</th>
<th>Time Limit</th>
<th>Pass Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational Pilot Permit – Aeroplane (RPPAE)</td>
<td>80</td>
<td>3 hours</td>
<td>60%</td>
</tr>
</tbody>
</table>

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 each of these areas. They are:

<table>
<thead>
<tr>
<th>Mandatory Subjects</th>
<th>Related Study and Reference Guide Sections</th>
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<td>AIR LAW</td>
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<tr>
<td>NAVIGATION</td>
<td>Navigation and Radio Aids – Section 2</td>
<td>10</td>
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<tr>
<td>METEOROLOGY</td>
<td>Meteorology – Section 3</td>
<td>12</td>
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<tr>
<td>AERONAUTICS AND GENERAL KNOWLEDGE</td>
<td>Airframes, Engines, and Systems – Section 4</td>
<td>14</td>
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<td>Theory of Flight – Section 5</td>
<td>15</td>
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<td>Flight Instruments – Section 6</td>
<td>16</td>
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<td></td>
<td>Flight Operations – Section 7</td>
<td>17</td>
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<tr>
<td></td>
<td>Human Factors – Section 8</td>
<td>19</td>
</tr>
</tbody>
</table>
Questions fall under one of the four mandatory subjects 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 and Radio Aids – Section 2 may require knowledge on VFR fuel requirements under Air Law and Procedures – Section 1.

Applicants who obtain less then 60% on the overall examination will, for licensing purposes, be required to rewrite the complete paper. The rewrite provisions detailed in the CARs, Part IV apply.

SUPPLEMENTARY EXAMINATIONS

Applicants who obtain 60% or more on the main examination (RPPAE), 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:

<table>
<thead>
<tr>
<th>Examination</th>
<th>Questions</th>
<th>Time Limit</th>
<th>Pass Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR LAW (RALAW)</td>
<td>20</td>
<td>1 hour</td>
<td>60%</td>
</tr>
<tr>
<td>NAVIGATION (RANAV)</td>
<td>20</td>
<td>1½ hours</td>
<td>60%</td>
</tr>
<tr>
<td>METEOROLOGY (RAMET)</td>
<td>20</td>
<td>1 hour</td>
<td>60%</td>
</tr>
<tr>
<td>AERONAUTICS – GENERAL KNOWLEDGE</td>
<td>20</td>
<td>1 hour</td>
<td>60%</td>
</tr>
<tr>
<td>(RAGEN)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

EXAMINATION RESULTS: FEEDBACK STATEMENTS

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

Example of a Feedback Statement

Identify the atmospheric conditions favorable for thunderstorm formation.
SECTION 1: AIR LAW AND PROCEDURES

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.

PART I – GENERAL PROVISIONS

101 – INTERPRETATION

101.01 Interpretation

103 – ADMINISTRATION AND COMPLIANCE

103.02 Inspection of Aircraft, Requests for Production of Documents and Prohibitions
103.03 Return of Canadian Aviation Documents
103.04 Record Keeping

PART III – AERODROMES AND AIRPORTS

300 – INTERPRETATION

300.01 Interpretation

301 – AERODROMES

301.01 Application
301.04 Markers and Markings
301.06 Wind Direction Indicator
301.07 Lighting
301.08 Prohibitions
301.09 Fire Prevention

302 – AIRPORTS

302.10 Prohibitions
302.11 Fire Prevention

PART IV – PERSONNEL LICENSING AND TRAINING

400 – GENERAL

400.01 Interpretation

401 – FLIGHT CREW PERMITS, LICENSES AND RATINGS

401.03 Requirements to Hold a Flight Crew Permit, Licence or Rating
401.04 Flight Crew Members of Aircraft Registered in Contracting States other than Canada
401.05 Recency Requirements
401.08 Personal Logs
401.22 Pilot Permit – Recreational – Aeroplane – Privileges
401.28 Reimbursement of Costs Incurred in Respect of a Flight

404 – MEDICAL REQUIREMENTS

404.03 Requirement to Hold a Medical Certificate (MC)
404.04 Issuance, Renewal and Validity Period of MC
404.06 Prohibition Regarding Exercise of Privileges
404.18 Permission to Continue to Exercise the Privileges of a Permit, Licence or Rating

PART VI – GENERAL OPERATING AND FLIGHT RULES

600 – INTERPRETATION

600.01 Interpretation

601 – AIRSPACE STRUCTURE, CLASSIFICATION AND USE

601.01 Airspace Structure
601.02 Airspace Classification
601.03 Transponder Airspace
601.04 IFR or VFR Flight in Class F Special Use Restricted Airspace or Class F Special Use Advisory Airspace
601.06 VFR Flight in Class A Airspace
601.07 VFR Flight in Class B Airspace
601.08 VFR Flight in Class C Airspace
601.09 VFR Flight in Class D Airspace
601.15 Forest Fire Aircraft Operating Restrictions
601.16 Issuance of NOTAM for Forest Fire Aircraft Operating Restrictions

602 – OPERATING AND FLIGHT RULES

GENERAL

602.01 Reckless or Negligent Operation of Aircraft
602.02 Fitness of Flight Crew Members
602.03 Alcohol or Drugs – Crew Members
602.04 Alcohol or Drugs – Passengers
602.05 Compliance with Instructions
602.06 Smoking
602.07 Aircraft Operating Limitations
602.08 Portable Electronic Devices
602.10 Starting and Ground Running of Aircraft Engines
602.11 Aircraft Icing
602.12 Overflight of Built-up Areas or Open-Air Assemblies of Persons During Take-offs, Approaches and Landings
602.13 Take-offs, Approaches and Landings within Built-up Areas of Cities and Towns
602.14 Minimum Altitude and Distances
602.15 Permissible Low Altitude Flight
602.19 Right-of-Way – General
602.20 Right-of-Way – Aircraft Manoeuvring on Water
602.21 Avoidance of Collision
602.22 Towing
602.23 Dropping of Objects
602.24 Formation Flight
602.26 Parachute Descents
602.27 Aerobatic Maneuvers – Prohibited Areas and Flight Conditions
602.28 Aerobatic Maneuvers with Passengers
602.31 Compliance with Air Traffic Control Instructions and Clearances
602.34 Cruising Altitudes and Cruising Flight Levels
602.35 Altimeter Setting and Operating Procedures in the Altimeter-Setting Region
602.36 Altimeter Setting and Operating Procedures in the Standard Pressure Region
602.37 Altimeter Setting and Operating Procedures in Transition Between Regions

OPERATIONAL AND EMERGENCY EQUIPMENT REQUIREMENTS
602.58 Prohibition
602.59 Equipment Standards
602.60 Requirements for Power-driven Aircraft
602.61 Survival Equipment – Flights over Land
602.62 Life Preservers and Personal Flotation Devices

FLIGHT PREPARATION, FLIGHT PLANS AND FLIGHT ITINERARIES
602.70 Interpretation
602.71 Pre-flight Information
602.72 Weather Information
602.73 Requirements to file a Flight Plan or a Flight Itinerary
602.74 Contents of a Flight Plan or Flight Itinerary
602.75 Filing of a Flight Plan or Flight Itinerary
602.76 Changes in the Flight Plan
602.77 Requirements to File an Arrival Report
602.78 Contents of an Arrival Report
602.79 Overdue Aircraft Reports

PRE-FLIGHT AND FUEL REQUIREMENTS
602.88 Fuel Requirements
602.89 Passenger Briefings

OPERATIONS AT OR IN THE VICINITY OF AN AERODROME
602.96 General
602.97 VFR and IFR Aircraft Operations at Uncontrolled Aerodromes within a Mandatory Frequency (MF) Area
602.98 General MF Reporting Requirements
602.99 MF Reporting Procedures before Entering Manoeuvring Area
602.100 MF Reporting Procedures on Departure
602.101 MF Reporting Procedures on Arrival
602.102 MF Reporting Procedures when Flying Continuous Circuits
602.103 Reporting Procedures when Flying through an MF Area
VISUAL FLIGHT RULES

- 602.114 Minimum Visual Meteorological Conditions for VFR Flight in Controlled Airspace
- 602.115 Minimum Visual Meteorological Conditions for VFR Flight in Uncontrolled Airspace
- 602.117 Special VFR Flight

RADIOCOMMUNICATIONS

- 602.136 Continuous Listening Watch
- 602.138 Two-way Radio communication Failure in VFR Flight

EMERGENCY COMMUNICATIONS AND SECURITY

- 602.143 Emergency Radio Frequency Capability
- 602.144 Interception Signals, Interception of Aircraft and Instructions to Land
- 602.145 ADIZ
- 602.146 ESCAT Plan

605 – AIRCRAFT REQUIREMENTS

GENERAL

- 605.03 Flight Authority
- 605.04 Availability of Aircraft Flight Manual
- 605.05 Markings and Placards
- 605.08 Unserviceable and Removed Equipment – General

AIRCRAFT EQUIPMENT REQUIREMENTS

- 605.14 Power-driven Aircraft – Day VFR
- 605.22 Seat and Safety-Belt Requirements
- 605.24 Shoulder Harness Requirements
- 605.25 General use of Safety Belts and Restraints System
- 605.28 Child Restraint System
- 605.29 Flight Control Locks
- 605.31 Oxygen Equipment and Supply
- 605.32 Use of Oxygen
- 605.35 Transponder and Automatic Pressure Altitude Reporting Equipment
- 605.38 ELT
- 605.40 ELT Activation

AIRCRAFT MAINTENANCE REQUIREMENTS

- 605.84 Aircraft Maintenance – General
- 605.85 Maintenance Release and Elementary Work
- 605.86 Maintenance Schedule
- 605.88 Inspection after Abnormal Occurrences

TECHNICAL RECORD

- 605.92 Requirements to Keep Technical Records
605.93 Technical Records – General
605.94 Journey Log Requirements
605.95 Journey Log – Carrying on Board

606 – MISCELLANEOUS

606.02 Liability Insurance
A.I.P. CANADA

1 A.I.P Canada Supplements
2 Aeronautical Information Circulars
3 Aviation Notices

TRANSPORTATION SAFETY BOARD OF CANADA (TSB) – (A.I.P. GEN 3.0)

1 Definitions
2 Reporting an Aviation Occurrence
3 Protection of Occurrence Site

AIR TRAFFIC SERVICES AND PROCEDURES

➤ 1 Air Traffic and Advisory Services
➤ 2 Flight Service Stations/Flight Information Centers
➤ 3 Communications Procedures
➤ 4 Radar Service – Clock Position System
➤ 5 ATC Clearances and Instructions
➤ 6 Wake Turbulence Separation
➤ 7 Airport/Aerodrome Operations – Controlled
➤ 8 Airport/Aerodrome Operations – Uncontrolled
➤ 9 Mandatory (MF) and Aerodrome Traffic Frequencies (ATF)
10 VFR En Route Procedures
11 VFR Holding Procedures
➤ 12 VFR/IFR Traffic Mix at Uncontrolled Airports/ Aerodromes
➤ 13 Operations on Intersecting Runways including (LAHSO)
➤ 14 Procedures for the Prevention of Runway Incursion
SECTION 2: NAVIGATION AND RADIO AIDS

DEFINITIONS

1. Longitude
2. Equator
3. Latitude
4. Great Circle
5. Variation
6. Isogonal
7. Agonic Line
8. Deviation
9. Track
10. Heading
11. Airspeed
12. Ground Speed
13. Ground Position
14. Wind Velocity
15. Drift

MAPS AND CHARTS

1. VTA – Transverse Mercator
2. VNC – Lambert Conformal Conic Projection
3. Topographical Symbols
4. Elevation and Contours (Relief)
5. Aeronautical Information
6. Scale and Units of Measurement
7. Locating Position by Latitude and Longitude
8. Navigational Aids

TIME AND LONGITUDE

1. 24 Hour System
2. Time Zones and Relation to Longitude
3. Conversion of UTC to Local and Vice Versa

PRE-FLIGHT PREPARATION

1. Factors Affecting Choice of Route
2. Map Preparation
3. Meteorological Information
4. NOTAM
5. Selection of Check-points
6. Fuel Requirements
7. Weight and Balance
8. Use of the Canada Flight Supplement
9. Documents to be carried in Aircraft
10. Flight Plans/Itineraries
11. Aircraft Serviceability

TRIANGLE OF VELOCITY

1. True Airspeed and Heading
2. Wind Velocity
3. Ground Speed and Track

NAVIGATION COMPUTERS

1. Heading and True Airspeed
2. Applying the Wind
3. True Track and Ground Speed
4. Magnetic Heading and Magnetic Track
5. Pressure/Density Altitudes
6. Time/Ground Speed/Distance
7. Fuel Consumption and Conversions
PILOT NAVIGATION

1 Use of Aeronautical Charts
2 Measurement of Track and Distance
3 Map Reading
4 Setting Heading – Visual Angle of Departure
5 Check-points and Pin-points
6 Ground Speed Checks and E.T.A. Revisions
7 Variation/Deviation
8 True Track/Magnetic Track
9 Track Made Good
10 Determining Drift by 10° Lines
11 Double Track Error Method to Regain Track
12 Sum of Opening and Closing Angles to Destination
13 Visual Alteration Method of Correction to Track
14 Diversion to Alternate
15 Return to Departure Point
16 Procedures When Lost
17 Indicated and Calibrated Airspeed (IAS, CAS)

RADIO THEORY

1 Characteristics of Very High Frequency Radio Waves
2 Frequency Bands Used in Navigation and Communications
3 Reception Limitations

GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS/GPS)

1 Basic Principles, Use and Limitations

OTHER RADIO AND RADAR AIDS – BASIC PRINCIPLES AND USE

1 Transponder
2 Emergency Locator Transmitter (ELT)
3 VHF Direction Finding (DF) Assistance
4 Airport Surveillance Radar (ASR) Primary/Secondary
SECTION 3: METEOROLOGY

THE EARTH'S ATMOSPHERE

1 The Standard Atmosphere
2 Density and Pressure
3 Mobility
4 Expansion and Compression

ATMOSPHERIC PRESSURE

1 Pressure Measurements
2 Station Pressure
3 Sea Level Pressure
4 Effects of Temperature
5 Isobars
6 Horizontal Pressure Differences

METEOROLOGICAL ASPECTS OF ALTIMETRY

1 Pressure Altitude
2 Density Altitude
3 Altimeter Settings
4 Considerations When Flying from High to Low Pressure and Temperature Areas, and vice versa

TEMPERATURE

1 Temperature Variations with Altitude
2 Inversions
3 Isothermal Layers

MOISTURE

1 Relative Humidity/Dew point
2 Sublimation and Condensation
3 Cloud Formation
4 Precipitation

STABILITY AND INSTABILITY

1 Characteristics of Stable and Unstable Air
2 Surface Heating and Cooling
3 Lifting Process

CLOUDS

1 Formation and Structure
2 Types and Recognition
3 Associated Precipitation and Turbulence

TURBULENCE

1 Convection
2 Mechanical
3 Orographic
4 Wind Shear

WIND

1 Pressure Gradient
2 Low Level Winds – Variation in Surface Wind
3 Veer and Back
4 Squalls and Gusts
5 Diurnal Effects
6 Land and Sea Breezes
7 Topographical Effects
8 Wind Shear – Types and Causes

AIR MASSES

1 Definition and Characteristics
2 Factors that Determine Weather
3 Seasonal and Geographic Effects
4 Air Masses Affecting North America
FRONTS

1 Structure
2 Types
3 Formation

FRONTAL WEATHER

1 Cold Front
2 Warm Front
3 TROWAL and Upper Fronts

AIRCRAFT ICING

1 In-flight – Freezing Rain
2 Hoar Frost

THUNDERSTORMS

1 Requirements for Development
2 Structure Development
3 Types – Air Mass/Frontal
4 Hazards – Updrafts/
Downdrafts/Gust Fronts/
Downbursts/Microbursts/Hail/
Lightning/Tornadoes
5 Squall Lines

SURFACE BASED LAYERS

1 Fog Formation
2 Fog Types
3 Haze/Smoke
4 Blowing Obstructions to Vision

METEOROLOGICAL SERVICES AVAILABLE TO PILOTS

1 Aviation Weather Information Service (AWIS)
2 Aviation Weather Briefing Service (AWBS)
3 Flight Service Stations (FSS)/ Flight Information Centers
4 Pilots Automatic Telephone Answering Service (PATWAS)
5 Aviation Weather Web Site (AWWS)
6 Automatic Terminal Information Service (ATIS)

AVIATION WEATHER REPORTS

1 Aviation Routine Weather Report (METAR) – decoding
2 Automated Weather Observation Station (AWOS)
3 Pilot Reports (PIREP)

AVIATION WEATHER FORECASTS

1 Times Issued and Period of Coverage
2 Decoding
3 Graphical Area Forecast (GFA)
4 Aerodrome Forecasts (TAF)
5 Upper Level Winds and Temperature Forecasts (FD)
6 Airman's Meteorological Advisory (AIRMET)
7 Significant In-flight Weather Warning Message (SIGMET)
SECTION 4: AIRFRAMES, ENGINES, AND SYSTEMS

**AIRFRAMES**
1. Types of Construction

**LANDING GEAR, BRAKES AND FLAPS**
1. Mechanical
2. Hydraulic
3. Electric

**ENGINES**
1. Two/Four Stroke Cycle
2. Methods of Cooling
3. Dual Ignition
4. Exhaust Systems
5. Ancillary Controls
6. Effect of Density Altitude/Humidity
7. Limitations and Operations
8. Instruments

**CARBURATION**
1. Mixture Controls
2. Carburetor Icing
3. Use of Carb Heat and it’s Effect on Mixture

**ELECTRICAL SYSTEM**
1. Generator/Alternator/Battery
2. Master/Alternator/Generator Switches
3. Ammeter/Load Meter
4. Circuit Breakers/Fuses
5. Grounding/Bonding

**FUEL SYSTEM AND FUELS**
1. Types – Colour and Properties
2. Density and Weight
3. Additives
4. Contamination and Deterioration
5. Tank Location
6. Venting
7. Fuel Lines – Filters/Drains
8. Detonation – Causes/Effects
9. Vapour Lock
10. Primers
11. Fuel Management – Ground/Air
12. Fuel Handling – Fuelling Aircraft

**LUBRICATING SYSTEMS AND OILS**
1. Types Viscosity/Grades/ Seasonal Use
2. Purposes
3. Venting
4. Filters
SECTION 5: THEORY OF FLIGHT

PRINCIPLES OF FLIGHT

1 Bernoulli's Theorem
2 Newton's Laws

FORCES ACTING ON AN AEROPLANE

1 Lift
2 Drag – Induced/Parasite/ Profile
3 Relationship of Lift and Drag to Angle of Attack
4 Thrust
5 Weight
6 Equilibrium
7 Centre of Pressure (C of P)
8 Centrifugal/Centripetal
9 Forces Acting on an Aircraft during Manoeuvres

AEROFOILS

1 Pressure Distribution about an Aerofoil
2 Relative Airflow and Angle of Attack
3 Downwash
4 Wing Tip Vortices
5 Angle of Incidence

PROPELLERS

1 Fixed Pitch
2 Torque/Slipstream/Gyroscopic Effect/Asymmetric Thrust

DESIGN OF THE WING

1 Area/Span/Chord
2 Aspect Ratio
3 Camber
4 Laminar Flow
5 Dihedral/Anhedral
6 Wash In/Wash Out
7 Slots/Slats
8 Stall Strips
9 Spoilers
10 Flaps
11 Canards

LOAD FACTOR

1 Centrifugal Force/Weight
2 Load Factor – Linear/Turns
3 Relationship of Load Factor to Stalling Speed
4 Structural Limitations
5 Gust Loads

STABILITY

1 Longitudinal, Lateral, Directional Stability
2 Inherent Stability
3 Methods of Achieving Stability

FLIGHT CONTROLS

1 Aeroplane Axes and Planes of Movement
2 Functions of Controls
3 Relationship Between Yaw and Roll
4 Adverse Yaw/Aileron Drag
5 Static/Dynamic Balancing of Controls
6 Trim/Trimming Devices
### SECTION 6: FLIGHT INSTRUMENTS

#### PITOT STATIC SYSTEM
- 1. Pitot
- 2. Static
- 3. Anti-Icing
- 4. Alternate Static – Sources/ Errors

#### AIRSPEED INDICATOR
- 1. Principles of Operation
- 2. Errors
- 3. Markings
- 4. Definitions (IAS/CAS/TAS)

#### VERTICAL SPEED INDICATOR
- 1. Principles of Operation
- 2. Errors
- 3. Lag

#### ALTIMETER/ENCODING ALTIMETER
- 1. Principles of Operation
- 2. Errors

#### DIRECT READING MAGNETIC COMPASS
- 1. Reading the Compass
- 2. Magnetic Dip
- 3. Turning and Acceleration Errors
- 4. Compass Serviceability Checks
- 5. Compass Correction Card
- 6. Checking Compass Heading on the Ground and in Flight

#### GYROSCOPE
- 1. Principles of Operation
- 2. Inertia
- 3. Precession

#### HEADING INDICATOR
- 1. Principles of Operation
- 2. Errors
- 3. Limitations
- 4. Power Sources

#### ATTITUDE INDICATOR
- 1. Principles of Operations
- 2. Errors
- 3. Limitations
- 4. Power Sources

#### TURN AND BANK INDICATOR/TURN CO-ORDINATOR
- 1. Principles of Operations
- 2. Errors
- 3. Limitations
- 4. Power Sources
SECTION 7: FLIGHT OPERATIONS

GENERAL

1 Pilot-In-Command Responsibilities
2 Winter Operations
3 Thunderstorm Avoidance
4 Mountain Flying Operations
5 Collision Avoidance – Use of Landing Lights
6 Runway Numbering
7 VASIS/PAPI
8 Units of Measurements and Conversion
9 Radio Communications
10 Aerodrome Operations (Including Procedures for the Prevention of Runway Incursions)
11 Wheelbarrowing
12 Hydroplaning
13 Taxiing
14 Effects of Wind
15 Sideslips

USE OF PERFORMANCE CHARTS

1 Take-off Charts
2 Cross-wind Charts
3 Cruise Charts
4 Fuel Burn Charts
5 Landing Charts
6 Effect of Ice/Snow/Frost/Slush/Water on Take-off and Landing Run
7 Effect of Various Runway Surfaces on Take-off and Landing Run
8 Upslope/Downslope Runway

AIRCRAFT PERFORMANCE

1 Effects of Aircraft Critical Surface Contamination
2 Effects of Density Altitude/Humidity
3 Normal/Short/Soft and Rough Field Take-offs and Landing
4 Ground Effect
5 Best Angle of Climb (Vx)
6 Best Rate of Climb (Vy)
7 Manoeuvring Speed (Va)
8 Safe Operating Speed (Vno)
9 Never Exceed Speed (Vne)
10 Maximum Flap Speed (Vfe)
11 Gliding for Range
12 Flying for Range
13 Flying for Endurance
14 Slow Flight
15 Stalls
16 Indicated and True Stalling Speed
17 Stall Speed vs Altitude
18 Spins
19 Spirals
20 Recommended Safe Recovery Altitudes
21 Effects of Change of Weight or Centre of Gravity (C of G) on Performance
22 Use of Aircraft Flight Manual and Approved Operational Information
23 Use of Unapproved Operational Information
WEIGHT AND BALANCE

1 Terms – e.g. Datum/Arm/Moment
2 Locating C of G
3 C of G Limits
4 Weights – e.g. Empty/Gross
5 Load Adjustment
6 Cargo Tie-down/Passenger Loading
7 Normal/Utility Category

WAKE TURBULENCE

1 Causes
2 Effects
3 Avoidance

SEARCH AND RESCUE (SAR) (A.I.P. Canada – SAR Information)

1 Types of Service Available
2 ELT (Exclude Categories)
3 Aircraft Emergencies
4 Survival – Basic Techniques

AIRCRAFT CRITICAL SURFACE CONTAMINATION

1 Clean Aircraft Concept
2 Frozen Contaminants
3 Cold Soaking Phenomenon
4 Pre-take-off Inspection
SECTION 8: HUMAN FACTORS

AVIATION PHYSIOLOGY

➤ 1 Hypoxia/Hyperventilation
2 Gas Expansion Effects
3 Decompression (including SCUBA diving)
➤ 4 Vision/Visual Scanning Techniques
5 Hearing
➤ 6 Orientation/Disorientation
   – Including Visual/Vestibular illusions
7 Positive and Negative “G”
8 Sleep/Fatigue
9 Anesthetics/Blood Donations

AVIATION PSYCHOLOGY

1 The Decision-Making Process
   ➤ 2 Factors That Influence Decision-Making
   ➤ 3 Situational Awareness
   ➤ 4 Stress
   ➤ 5 Managing Risk
   6 Attitudes
6 Workload – Attention and Information Processing

THE PILOT AND THE OPERATING ENVIRONMENT

1 Personal Health/Fitness
2 Diet/Nutrition
➤ 3 Medications (Prescribed and Over-the-counter)
4 Substance Abuse (Alcohol/Drugs)
5 Pregnancy
6 Heat/Cold
7 Noise/Vibration
8 Effects of Smoking
➤ 9 Toxic Hazards (Including Carbon Monoxide)

PILOT – EQUIPMENT/MATERIALS RELATIONSHIP

1 Controls and Displays – Errors in Interpretation and Control
2 Correct Use of Check-lists and Manuals

INTERPERSONAL RELATIONS

1 Communications with – Maintenance Personnel/Air Traffic Services/Passenger
2 Operating Pressures – Family Relationships/Peer Group
RECOMMENDED STUDY MATERIAL

- Sample Examination for Private Pilot Licence (TP 13014E)
- Student Pilot Permit or Private Pilot Licence for Foreign and Military Applicants, Air Regulations (PSTAR) (TP 11919E)
- When in Doubt... Small and Large Aircraft - Aircraft Critical Surface Contamination Training (TP 10643E)
- Aircraft Critical Surface Contamination Examination Questions (TP 10615E) - Questions that are appropriated to the licence sought may appear on written examination
- Air Command Weather Manual (TP 9352E)
- Air Command Weather Manual (Supplement) (TP 9353E)
- Flight Training Manual (TP1102E)
- Human Factors for Aviation - Basic Handbook (TP 12863E)
- Aeronautical Information Publication (A.I.P. Canada) (TP 2300E)
- Canadian Aviation Regulations (CARs)
- VFR Navigation Charts (VNC)/VFR Terminal Area Charts (VTA)
- Canada Flight Supplement


Information on text books and other publications produced by commercial publishers can be obtained through local flying training organizations, bookstores and similar sources.


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: http://www.tc.gc.ca/CivilAviation/General/Exams/Centres.htm