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Flight Test Guide

# Private Pilot Licence

Aeroplane

Third Edition

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# FLIGHT TEST GUIDE

## PRIVATE PILOT LICENCE

### AEROPLANE

This flight test guide sets out the techniques, procedures and the marking criteria that will be used by Civil Aviation Inspectors and designated Pilot Examiners for the conduct of the flight test required to demonstrate the skill requirements for the issuance of the Private Pilot Licence - Aeroplane.

Flight Instructors are expected to use this guide when preparing candidates for flight tests. Candidates should be familiar with this guide and refer to the qualification standards during their training.

Detailed descriptions and explanations of the flight test exercises as numbered on the flight test report can be found by referring to the corresponding chapter number in the *Flight Training Manual* published under the authority of Transport Canada.

### Definitions

**‘examiner’** means a Pilot Examiner accredited under section 4.3 of Part 1 of the *Aeronautics Act* or a Civil Aviation Inspector authorized to conduct this flight test.

**‘flight test item’** means a task, manoeuvre or exercise listed on the flight test report.

**‘ground flight test items’** are the planning and preparatory tasks performed prior to the pre-flight inspection of the aircraft.

**‘air flight test items’** are tasks or manoeuvres performed with the aircraft, including the pre-flight inspection, start-up, run-up, taxiing and emergency procedures.

**‘flight at minimum controllable airspeed’** means a speed at which any further increase in angle of attack or load factor, or a reduction in power will cause an immediate stall.

**‘soft-field’** means a take-off or landing surface that has no pavement or smooth concrete and may present various degrees of rolling resistance.

Vertical sidebars at the right margin indicate text with changes from the previous edition that may affect prerequisites, aircraft requirements, the performance standard expected and the evaluation of the flight test item. Text changes for the purpose of clarification or grammatical correction are not indicated.

## Changes in this Edition

1. Several heavy vertical lines along the right margin indicate editorial changes for increased clarity or to denote changes to the flight test.
2. Definitions added for “flight near minimum controllable airspeed” and “soft field”.
3. Admission to the flight test – Another instructor may have conducted the pre-test evaluation.
4. Definitions for “Errors” and “Deviations” are added.
5. 4-Point Marking Scale – Labels have been removed from the four levels. E.g. “Above Standard” removed. The summary column has been removed and the element text is more clear and linked to Errors and Deviations.
6. Ex. 2D – Pre-Flight Inspection – The candidate is expected to state the flight endurance at the intended cruising speed with the available fuel on board.
7. Ex.11 – Slow Flight – To encourage a better lookout during the execution of this item, emphasis is on controlled flight near minimum controllable airspeed with stall warning or buffet instead of maintaining a specific airspeed indication.
8. Ex. 21 Precautionary Landing – Criteria expanded in reference to establishing the aircraft configuration. Low-level inspection must be stabilized and safe, altitude tolerances removed.
9. Ex 23A – Pre-Flight Planning – time for the final preparation has been extended from 45 minutes to one (1) hour.
10. Ex. 23D – Diversion – The candidate is expected to initiate the diversion without undue delay by quickly determining a heading and a time enroute without wasting too much time in a holding pattern. Altitude tolerance increased to  $\pm 200$  feet to be compliant with forthcoming CAR Standard 428. Following ground references is an option for the PPL flight test.
11. Ex. 29 – Emergency Procedures – One emergency/malfunction should be simulated in flight.
12. Ex. 30 – Radio Communications – The reference to “DF Steer” has been removed, as virtually all DF facilities have been decommissioned in Canada.

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## GENERAL

### Admission to a Flight Test

In order to be admitted to a flight test required for the issuance of a Private Pilot Licence – Aeroplane, or a complete re-test, and meet the requirements of CAR 421.14, the candidate will present:

- (a) photo identification with signature;
- (b) a valid permit, licence or a foreign pilot licence issued by a contracting state;
- (c) proof of meeting the medical standards for the Private Pilot Licence,
- (d) a letter from a qualified flight instructor certifying that:
  - (i) a pre-test evaluation has been completed with the candidate;
  - (ii) the candidate is considered to have reached a sufficient level of competency to complete the flight test for the issuance of the Private Pilot Licence, and
  - (iii) the instructor recommends the candidate for the flight test.
- (e) evidence of having completed 35 hours total flight time.

### Admission to a Partial Flight Test

A partial flight test must be conducted within 30 days following the date of the failed complete flight test. Prior to admission to a partial flight test, the candidate will provide the requirements of (a), (b) and (c) above, and:

- (a) a copy of the flight test report for the previously failed flight test; and
- (b) a letter, signed by the holder of a valid Flight Instructor Rating - Aeroplane, certifying that the candidate:
  - (i) has received further training on the failed flight test item(s);
  - (ii) is considered to have reached a sufficient level of competency to successfully complete the flight test; and
  - (iii) is recommended by the instructor for the partial flight test.

### Letters of Recommendation

Letters of recommendation must be dated within 30 days prior to the flight test and, in the case of a candidate recommended by a Class 4 flight instructor, the letter must be co-signed by the supervising instructor. In the case of a re-test, the person who conducted the additional training will sign the letter of recommendation.

## Aircraft and Equipment Requirements:

The candidate will provide:

- (a) an aeroplane for the flight test that:
  - (i) has a flight authority pursuant to CAR 507 and that authority has no operating limitations that prohibit the performance of the required manoeuvres; and
  - (ii) meets the requirements of CAR 425.23 Training Aircraft Requirements - subsections (1), (2) and (3) of the *Personnel Licensing Standards*.
- (b) appropriate current aeronautical charts and *Canada Flight Supplement*.
- (c) an effective means of excluding outside visual reference to simulate instrument flight conditions, while maintaining a safe level of visibility for the examiner.

## Liability Insurance

Pilot examiners will not accept a verbal statement from candidates indicating insurance coverage has been arranged. The candidate must provide proof of insurance indicating that the examiner is covered prior to the conduct of the flight test.

## Flight Test

All of the flight test items required by the flight test report and described in this guide must be completed and the minimum pass mark for the Private Pilot Licence of **62** (50%) must be achieved.

All flight tests will be conducted when weather conditions do not present a hazard to the operation of the aeroplane, the aeroplane is airworthy and the candidate and aircraft's documents, as required by the *Canadian Aviation Regulations*, are valid. It is the sole responsibility of the examiner to make the final decision as to whether or not any portion or all of the flight test may be conducted.

Items **2A, 2B, 2C and 23A** are ground flight test items and will be assessed before the flight portion of the flight test.

## Repeated Flight Test Item

A flight test item or manoeuvre will not be repeated unless one of the following conditions applies:

- (a) **Discontinuance:** Discontinuance of a manoeuvre for valid safety reasons; i.e., a go-around or other procedure necessary to modify the originally planned manoeuvre.
- (b) **Collision Avoidance:** Examiner intervention on the flight controls to avoid another aircraft, which the candidate could not have seen due to position or other factors.
- (c) **Misunderstood Requests:** Legitimate instances when candidates did not understand an examiner's request to perform a specific manoeuvre. A candidate's failure to understand the nature of a specified manoeuvre being requested does not justify repeating an item or manoeuvre.
- (d) **Other Factors:** Any condition under which the examiner was distracted to the point that he or she could not adequately observe the candidate's performance of the manoeuvre (radio calls, traffic, etc.).

**Note:** These provisions have been made in the interest of fairness and safety and do not mean that instruction, practice, or the repeating of an item or manoeuvre, that was unacceptably demonstrated, is permitted during the flight test evaluation process.



## Incomplete Flight Test

If the test is not completed due to circumstances beyond the candidate's control, the subsequent flight test will include the flight test items not completed on the original flight test and will be completed within the 30 days of the original letter of recommendation.

The following process will apply:

- (a) a copy of the flight test report must be given to the candidate;
- (b) the flight test may be completed at a later date;
- (c) the test may be completed by the same or another examiner;
- (d) the original letter of recommendation remains valid;
- (e) flight test items already assessed will not be re-tested, but items already demonstrated during the initial flight, and repeated for the purpose of the second flight, may be re-assessed as "1" if the aim is not achieved;
- (f) the original flight test report may be used to complete the test, or two separate reports may be submitted;
- (g) the candidate is permitted to complete additional training while awaiting completion of the test.

If the initial flight test included one or two failed air flight test items, the partial flight test for these may be conducted during the subsequent flight test flight, after the candidate has completed all of the required items, provided:

- (a) the minimum pass mark has been achieved;
- (b) no additional items were failed during the subsequent flight test; and
- (c) a letter of recommendation for the partial flight test was received prior to the flight.

## Failure of a Flight Test

Failure to obtain the minimum pass mark or the failure of any flight test item constitutes failure of the flight test. The failure of any ground item requires a complete re-test and precludes the air portion of the flight test. Ground items are not eligible for a partial flight test. The failure of one or two air items will require a partial flight test on those items, and the failure of a third air item will require a complete re-test.

The examiner will stop a test, assess it "1", and a complete re-test will be required if the candidate jeopardizes safety by:

- (a) displaying unsafe or dangerous flying that is not linked to a skill, lack of training or competency; or
- (b) demonstrating a pattern of failing to use proper visual scanning techniques to check for traffic before and while performing visual manoeuvres.

Following a failed flight test that qualifies for a partial re-test, the candidate will obtain a copy of the flight test report to meet the requirements for admission to a partial flight test.

If not satisfied with the outcome of the flight test, a candidate may wish to file a written complaint regarding the conduct of a flight test or the performance of an examiner with the Transport Canada Regional Office responsible for that pilot examiner. In order to succeed with a complaint, the applicant will have to satisfy Transport Canada that the test was not properly conducted. Mere dissatisfaction with the flight test result is not enough. After due consideration of the individual case, the Regional Superintendent – Flight Training, may authorize a re-test to be conducted, without prejudice (with a clean record in regard to the disputed flight test), by a Civil Aviation Inspector or alternate pilot examiner. Should the complaint not be addressed to the candidate's satisfaction, the procedure to be followed is outlined in "[Civil Aviation Issues Reporting System \(CAIRS\)](http://www.tc.gc.ca/wcms-sgcw/civilaviation/cairs-755.htm)". The document can be found at:

<http://www.tc.gc.ca/wcms-sgcw/civilaviation/cairs-755.htm>

## Partial Flight Test

Provided that the applicable pass mark has been achieved and there are no more than two failed air flight test items, the skill requirement for licence issue may be met by completing a partial flight test of the item or items assessed “1”.

The candidate will be required to successfully perform the air item(s) assessed as “1” on the complete flight test. Flight test items not associated with the item(s) to be retested, but repeated for the purpose of the second flight, may be re-assessed as “1” if their aim is not achieved or safety is compromised.

The partial flight test must be completed within 30 days of the original complete flight test. No more than one partial flight test will be allowed for each complete flight test.

## Use of Flight Simulator or Flight Training Device

For a partial flight test, and at the discretion of the examiner, a Level 3, 5 or 6 flight training device approved in accordance with CAR 606.03, Synthetic Flight Training Equipment that reproduces the aeroplane type used for the failed flight test may be used to re-test Exercise 29, Emergency Procedures.

## Complete Re-test

A complete re-test will be required in the following situations:

- (a) the required pass mark is not obtained during a complete flight test;
- (b) failure of any ground item;
- (c) failure of more than two air items during a complete flight test;
- (d) failure of a flight test item during a partial flight test;
- (e) displaying unsafe flying or dangerous behaviour that is not linked to a skill, lack of training or competency;
- (f) a demonstrated pattern of failing to use proper visual scanning techniques is displayed during the flight test; or
- (g) a partial flight test is not completed within 30 days of the original complete flight test.

**Note:** In the case of a complete re-test, the candidate should not show or submit a copy of the previously failed flight test report to the examiner.

## Pre-Test Briefing

Pilot examiners are required to brief test candidates on the following details:

- (a) **The sequence of flight test items.** There is no need for the candidate to memorize this sequence, as the examiner will give instructions for each item.
- (b) **If in doubt - Ask!** Candidates who do not clearly understand what they are being asked to do should feel free to ask. It may be that the examiner was not clear in giving instructions.
- (c) **Who is pilot-in-command?** The pilot-in-command should be the flight test candidate and, if the examiner is a Transport Canada employee, it will always be the flight test candidate.
- (d) **The roles of the candidate and examiner in the event of an actual emergency?** A briefing by the examiner should detail the actions to be taken by the candidate and examiner in the event of an actual emergency.
- (e) **How to transfer control.** There should never be any doubt who is flying the aircraft, so proper transfer of control using phrases such as “You have control” and “I have control” is expected during a flight test. A visual check is recommended to verify that the exchange has occurred.
- (f) **Ground references.** Intended touchdown zones and specific touchdown points. For the short or soft field approach and landing, the examiner will clearly specify the simulated surface conditions, obstacles on approach, runway threshold and length of surface available to the candidate.

- (g) **Method of simulating emergencies.** What method will be used? Verbal? Engine failures will only be simulated in accordance with the manufacturer's recommendations or, in their absence, by closing the throttle or by reducing power to flight idle. The moving of mixture controls to idle cut-off will only be used where specifically recommended by the manufacturer. The practice of closing fuel valves, shutting off magneto switches or pulling circuit breakers will not be used during a flight test.

## **Flight Management**

Flight management refers to the effective use of all available resources, including working with such groups as dispatchers, other crewmembers, maintenance personnel, and air traffic controllers. Poor performance of an exercise or task can often be explained by weaknesses in flight management competencies.

### *Problem Solving and Decision Making*

- a) anticipates problems far enough in advance to avoid crisis reaction
- b) uses effective decision-making process
- c) makes appropriate inquiries
- d) prioritizes tasks to gain maximum information input for decisions
- e) makes effective use of all available resources to make decisions
- f) considers "downstream" consequences of the decision being considered

### *Situational Awareness*

- (a) actively monitors weather, aircraft systems, instruments, ATC communications
- (b) avoids "tunnel vision" - awareness that factors such as stress can reduce vigilance
- (c) stays "ahead of the aircraft" in preparing for expected or contingency situations
- (d) remains alert to detect subtle changes in the environment

### *Communication*

- (a) provides thorough briefings
- (b) asks for information and advice
- (c) communicates decisions clearly
- (d) asserts one's position appropriately

### *Workload Management*

- (a) organizes cockpit resources well
- (b) recognizes overload in self
- (c) eliminates distractions during high workload situations
- (d) maintains ability to adapt during high workload situations

## **Airmanship**

The candidate's airmanship will be assessed along with other factors in determining the mark awarded for each item. Items such as looking out for other aircraft, use of checklists, consideration for other aircraft on the ground and in the air, choice of run-up areas, choice of runways and clearing the engine during prolonged glides will be assessed. The candidate will be expected to demonstrate good airmanship and complete accurate checks on a continuing basis.

## Errors

**Error:** means an action or inaction by the flight crew that leads to a variance from operational or flight crew intentions or expectations.

### Minor Error

An action or inaction that is inconsequential to the completion of a task, procedure or manoeuvre, even if certain elements of the performance vary from the recommended best practices.

### Major Error

An action or inaction that can lead to an undesired aircraft state or a reduced safety margin, if improperly managed; or an error that does not lead to a safety risk, but detracts measurably from the successful achievement of the defined aim of a sequence/item:

### Critical Error

An action, inaction that is mismanaged and consequently leads to an undesired aircraft state or compromises safety such as:

- Non-compliance with CARS or non-adherence to mandated standard operating procedures;
- Repeated improper error management or uncorrected and unrecognized threats that risk putting the aircraft in an undesired state; or
- Repeated major errors or the non-performance of elements prescribed in the *Performance Criteria*\* that are essential to achieving the *Aim*\* of a test sequence/item.

\* defined in the applicable Flight Test Guide.

## Deviations

**Deviation:** means a variance in precision with respect to a specified limit published for a test sequence/item, as a result of pilot error or faulty handling of the aircraft.

### Minor Deviation

A deviation that does not exceed a specified limit:

### Major Deviation

A deviation that exceeds a specified limit or repeated minor deviations without achieving stability:

### Critical Deviation

A major deviation that is repeated, excessive or not corrected, such as:

- Repeated non-adherence to specified limits;
- Not identifying and correcting major deviations.
- More than doubling the specified value of a limit; or

## 4-POINT MARKING SCALE

When applying the 4-point scale, award the mark that best describes the weakest element(s) applicable to the candidate's performance of the particular test sequence/item demonstrated.

<b>4</b>	<p>Performance is well executed considering existing conditions:</p> <ul style="list-style-type: none"> <li>• Aircraft handling is smooth and positive with a high level of precision.</li> <li>• Technical skills indicate a thorough knowledge of procedures, aircraft systems, limitations and performance characteristics.</li> <li>• Situational awareness is indicated by continuous anticipation and vigilance.</li> <li>• Flight management skills are exemplary and threats are consistently anticipated, recognized and well managed.</li> <li>• Safety margins are maintained through consistent and effective management of aircraft systems and mandated operational protocols.</li> </ul>
<b>3</b>	<p>Performance is observed to include minor errors:</p> <ul style="list-style-type: none"> <li>• Aircraft handling with appropriate control input includes minor deviations.</li> <li>• Technical skills indicate an adequate knowledge of procedures, aircraft systems, limitations and performance characteristics to successfully complete the task.</li> <li>• Situational awareness is adequately maintained as candidate responds in a timely manner to cues and changes in the flight environment to maintain safety while achieving the aim of the sequence/item.</li> <li>• Flight management skills are effective. Threats are anticipated and errors are recognized and recovered.</li> <li>• Safety margins are maintained through effective use of aircraft systems and mandated operational protocols.</li> </ul>
<b>2</b>	<p>Performance is observed to include major errors:</p> <ul style="list-style-type: none"> <li>• Aircraft handling is performed with major deviations and/or an occasional lack of stability, over/under control or abrupt control input.</li> <li>• Technical skills reveal deficiencies either in depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that do not prevent the successful completion of the task.</li> <li>• Situational awareness appears compromised as cues are missed or attended too late or the candidate takes more time than ideal to incorporate cues or changes into the operational plan.</li> <li>• Flight management skills are not consistent. Instrument displays, aircraft warnings or automation serve to avert an undesired aircraft state by prompting or remedying threats and errors that are noticed late.</li> <li>• Safety margins are not compromised, but poorly managed.</li> </ul>
<b>1</b>	<p>Performance is observed to include critical errors or the <i>Aim</i> of the test sequence/item is not achieved:</p> <ul style="list-style-type: none"> <li>• Aircraft handling is performed with critical deviations and/or a lack of stability, rough use of controls or control of the aircraft is lost or in doubt.</li> <li>• Technical skills reveal unacceptable levels of depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that prevent a successful completion of the task.</li> <li>• Lapses in situational awareness occur due to a lack of appropriate scanning to maintain an accurate mental model of the situation or there is an inability to integrate the information available to develop and maintain an accurate mental model.</li> <li>• Flight management skills are ineffective, indecisive or noncompliant with mandated published procedures and/or corrective countermeasures are not effective or applied.</li> <li>• Safety margins are compromised or clearly reduced.</li> </ul>

## Flight Test Results

The *Privacy Act* protects the privacy of individuals with respect to personal information about themselves held by a government institution. A flight test measures the performance of the candidate for the flight test, the examiner conducting the flight test, the instructor who recommended the candidate and, through identification of the Flight Training Unit responsible for the training, the performance of the Chief Flight Instructor of that unit. All of these are identified on the flight test report.

Personal information may be disclosed in accordance with Section 8(2)(a) of the *Act*, which allows disclosure...”for the purpose for which the information was obtained or compiled by the institution or for a use consistent with that purpose”. The purpose for which flight test information is obtained is to ensure the safety of aviation in Canada. The specific purposes are to measure whether the candidate meets the minimum skill standard for the licence or rating, whether the recommending instructor is performing competently as an instructor, whether the examiner is conducting the test in accordance with the standards, and whether the Flight Training Unit is performing in accordance with the general conditions of the operator certificate.

In accordance with 8(2)(a) of the *Privacy Act*, a copy of the flight test report will be given to the candidate for a flight test and a copy will be retained by the examiner who conducted the flight test. A copy may also be given to the instructor who recommended the candidate for the flight test and to the Chief Flight Instructor responsible for the quality of flight training at the Flight Training Unit where the training was conducted. Specific information about the results of a flight test will not be given by Transport Canada to anyone but the individuals named on the flight test report, except in accordance with the *Privacy Act*.

## Assessment of Flight Test Performance

The “*Performance Criteria*” section of each flight test item prescribes the marking criteria. These criteria assume no unusual circumstances as well as operation of the aeroplane in accordance with the manufacturer’s specifications, recommended speeds and configurations in the Pilot’s Operating Handbook/Aircraft Flight Manual (POH/AFM) or other approved data.

Throughout the flight test, the candidate is evaluated on the use of an appropriate checklist. Proper use is dependent on the specific task being evaluated. The situation may be such that the use of the written checklist, while accomplishing the elements of an “*Aim*”, would be either unsafe or impractical. In this case, a review of the checklist after the elements have been accomplished would be appropriate. Division of attention and proper visual scanning should be considered when using a checklist. It is acceptable for certain items to be verified from memory.

Consideration will be given to unavoidable deviations from the published criteria due to weather, traffic or other situations beyond the reasonable control of the candidate. To avoid the need to compensate for such situations, tests should be conducted under normal conditions, whenever possible.

## FLIGHT TEST ITEMS

### Ex. 2 Aeroplane Familiarization and Preparation for Flight

#### A. Documents and Airworthiness (Ground Item)

##### *Aim*

To determine that the candidate can correctly assess the validity of documents required on board and, from these documents, determine that the aircraft is airworthy.

##### *Description*

The candidate will determine the validity of all documents required on board the aeroplane and determine that required maintenance certifications have been completed.

##### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) determine if the documents required on board are valid;
- (b) determine if the maintenance release ensures aeroplane serviceability and currency of inspection for the proposed period of flight;
- (c) determine the number of flying hours remaining before the next service or maintenance task;
- (d) ensure that any conditions or limitations on the maintenance release can be complied with;
- (e) determine the impact of deferred defects on aeroplane operations for the proposed flight;
- (f) explain the process for dealing with aeroplane unserviceabilities discovered during a flight.

#### B. Aeroplane Performance (Ground Item)

##### *Aim*

To determine that the candidate understands the approved operating procedures, performance capabilities and limitations of the aeroplane being used for the flight test.

##### *Description*

The candidate will be required to demonstrate a practical knowledge of the approved operating procedures, performance capabilities and limitations of the aeroplane to be used on the flight test. Essential performance speeds will be quoted from memory. Other aeroplane performance data, such as static take-off power RPM, may be determined using the POH/AFM.

##### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) state from memory the following speeds:
  - (i) best angle of climb speed ( $V_X$ );
  - (ii) best rate of climb speed ( $V_Y$ );
  - (iii) manoeuvring speed ( $V_A$ ).

- (b) calculate for the proposed flight:
  - (i) take-off distance required to clear a 50 foot or existing obstacle;
  - (ii) landing distance required to clear a 50 foot or existing obstacle;
  - (iii) the power setting proposed for the planned enroute cruising flight (percentage, manifold pressure and RPM) and the expected cruise speed in KTAS;
  - (iv) the available flight time with the fuel load and power settings proposed for the navigation flight;

### **C. Weight and Balance, Loading (Ground Item)**

#### *Aim*

To determine that the candidate can correctly complete weight and balance calculations for the intended flight with the aeroplane used for the test.

#### *Description*

The candidate will be required to apply the approved weight and balance data and, by using actual weights for the aeroplane used for the test, complete accurate computations for an assigned practical load requirement that addresses all or most of the passenger and baggage stations, including take-off weight, landing weight and the zero-fuel weight. If a loading graph or computer is available with the aeroplane, it may be utilized.

Knowledge of weight and balance graphs and envelopes, and the effect of various centres of gravity locations on the aeroplane flight characteristics will be demonstrated. Practical knowledge of how to correct a situation in which the centre of gravity is out of limits or in which the gross weight has been exceeded as well as the ability to amend a calculation will be demonstrated.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) determine if the take-off, landing and zero-fuel weights, as well as the computed centres of gravity are within permissible limits;
- (b) demonstrate practical knowledge of how to correct a situation in which the centre of gravity is out of limits and/or in which the gross weight is exceeded.
- (c) explain the effect of various centre of gravity locations on aeroplane flight characteristics.



## **D. Pre-Flight Inspection (Air Item)**

### *Aim*

To determine that the candidate can complete internal and external checks in accordance with the POH/AFM and demonstrate practical knowledge of the aircraft to determine that the aeroplane is in a safe condition for the intended flight.

### *Description*

The candidate will determine that the aeroplane is ready for the intended flight and, as can reasonably be determined by pre-flight inspection, confirmed to be airworthy. The external and internal checks must cover at least all of the items specified by the manufacturer. All required equipment and documents will be located and safely stowed. Visual checks for fuel quantity, proper grade of fuel, fuel contamination and oil level will be carried out in accordance with the POH/AFM. If aircraft design precludes a visual check of fuel levels, fuel chits, fuel logs or other credible procedures may be used to confirm the amount of fuel actually on board. The candidate will state the available flight time at the intended cruising speed with the actual fuel on board.

After the candidate has completed the pre-flight inspection, questions relating to the flight test aircraft will be asked. The candidate should be able to explain what appropriate action would be taken if an unsatisfactory item were detected or described by the examiner during the pre-flight inspection. The candidate should demonstrate knowledge of the consequences if such items were undetected.

The candidate will conduct an oral passenger safety briefing. If the candidate omits the passenger safety briefing, the examiner will ask the candidate to provide a briefing.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) use an orderly procedure to inspect the aeroplane including at least those items listed by the manufacturer or aeroplane owner;
- (b) identify and verify switches, circuit breakers/fuses, and spare fuses;
- (c) confirm that there is sufficient fuel and oil for the intended flight;
- (d) state the flight endurance at the intended cruising speed and altitude with the fuel quantity on board;
- (e) verify that the aeroplane is in a condition for safe flight;
- (f) describe the appropriate action to take for any unsatisfactory item, detected or described by the examiner;
- (g) identify and verify the location and security of baggage and required equipment;
- (h) organize and arrange material and equipment in a manner that makes the items readily available;
- (i) perform an effective passenger safety briefing that will include:
  - (i) use of seat belts
  - (ii) the location and use of emergency exits
  - (iii) emergency locator transmitter, fire extinguisher
  - (iv) passenger considerations for aircraft evacuation;
  - (v) action to take in the event of an emergency landing
  - (vi) smoking limitations
  - (vii) items specific to the aeroplane type being used
  - (viii) other items for use in an emergency.

## **E. Engine Starting and Run-up, Use of Checklists**

### *Aim*

To determine that the candidate can complete engine start, warm-up, run-up, verify correctness of control movements, perform system checks in accordance with the checklists or placards provided and respond correctly to unsatisfactory conditions discovered, or described by the examiner.

### *Description*

The candidate is expected to use recommended procedures for engine starting, warm-up, run-up and checking of aeroplane systems and equipment in accordance with the checklists or placards provided by the aircraft manufacturer or owner, completing at least those items in the POH/AFM to determine that the aeroplane is airworthy and ready for flight. The candidate will take appropriate action with respect to unsatisfactory conditions encountered or describe the action to be taken in response to a simulated condition specified by the examiner.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) demonstrate an awareness of other persons and property before and during engine start;
- (b) use the appropriate checklist provided by the manufacturer or aeroplane owner;
- (c) accurately complete the engine and aeroplane system checks;
- (d) check flight controls for freedom of operation and correct movement.
- (e) take appropriate action with respect to unsatisfactory conditions;

## **F. Operation of Aircraft Systems**

### *Aim*

To determine that the candidate can operate aircraft systems in accordance with the POH/AFM.

### *Description*

The candidate will be expected to demonstrate practical knowledge of the operation of systems installed in the aeroplane being used for the flight test. Use of these systems will be evaluated both on the ground and in the air.

### *Performance Criteria*

Assessment will be based on the candidate's ability to operate the aeroplane systems in accordance with the POH/AFM and explain the operation of two of the following systems, as specified by the examiner:

- (a) primary flight controls and trim
- (b) carburetor heat
- (c) mixture
- (d) propeller
- (e) fuel, oil, and hydraulic
- (f) electrical
- (g) flaps
- (h) landing gear
- (i) brakes
- (j) avionics
- (k) pitot-static, vacuum/pressure system and associated flight instruments
- (l) heater and environmental
- (m) de-icing and anti-icing

## Ex. 4 Taxiing

### *Aim*

To determine that the candidate can manoeuvre the aeroplane safely and avoid unnecessary interference with movement of other traffic.

### *Description*

The candidate will be expected to taxi the aircraft to and from the runway in use and as otherwise required during the test. Provided that traffic and other conditions permit, the candidate will taxi along taxiway centrelines, where they exist. The candidate will position the flight controls appropriately for wind conditions. During calm wind conditions, the examiner will specify a wind speed and direction in order to test this ability.

While taxiing, the candidate will confirm the proper functioning of the flight instruments. Should the candidate omit the flight instrument checks, the examiner will ask the candidate to complete these checks prior to the takeoff.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform a brake check;
- (b) demonstrate proficiency by maintaining correct and positive aeroplane control.
- (c) safely manoeuvre the aeroplane, considering other traffic on aprons and manoeuvring areas;
- (d) use appropriate taxiing speeds;
- (e) maintain a safe distance from other aeroplanes, obstructions and persons;
- (f) adhere to local taxi rules, procedures and Air Traffic Control clearances and instructions;
- (g) confirm the correct functioning of the flight instruments;
- (h) accomplish the applicable checklist items and perform recommended procedures;
- (i) identify and correctly interpret airport, taxiway and runway signs, markings and lighting;
- (j) after landing, clear the runway/landing area and taxi to suitable parking/refuelling area;
- (k) maintain constant vigilance and aeroplane control during taxi operation;
- (l) park the aeroplane properly, considering the safety of nearby persons or property.

## Ex. 9 Steep Turn

### *Aim*

To determine the candidate's ability to perform a level and coordinated steep turn.

### *Description*

The candidate will be asked to execute a steep turn through 360°, with an angle of bank of 45°, using a pre-selected and prominent geographic point as a heading reference. The examiner will specify the airspeed, altitude and geographic reference point prior to entering the turn.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform and maintain an effective lookout before and during the turn;
- (b) roll into and out of turns, using smooth and coordinated pitch, bank, yaw and power control
- (c) roll into a coordinated turn with an angle of bank of 45°;
- (d) maintain coordinated flight;
- (e) maintain the selected altitude ( $\pm 100$  feet), airspeed ( $\pm 10$  knots) and angle of bank ( $\pm 10^\circ$ );
- (f) visually recover from the turn at the pre-selected recovery reference point ( $\pm 10^\circ$ ).

## Ex. 11 Slow Flight

### *Aim*

To determine the candidate's ability to establish the aircraft in flight near minimum controllable airspeed as indicated by a near-constant stall warning or aerodynamic buffet, to maintain flight control, to manoeuvre, while preventing a stall, at that speed and to recover promptly and smoothly to normal flight on command of the examiner.

### *Description*

**At an operationally safe altitude** that would allow recovery from an inadvertent stall at or above 2,000 feet AGL or the minimum altitude recommended by the manufacturer, whichever is higher, the candidate will establish and manoeuvre the aircraft in flight near minimum controllable airspeed. Airspeed may be increased slightly during a turn or in turbulent conditions. A slight increase in airspeed while turning or in turbulence is acceptable as the stall speed increases in these conditions.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) complete appropriate safety precautions before entering slow flight;
- (c) maintain an effective lookout;
- (b) establish and maintain the aeroplane in flight near minimum controllable airspeed as indicated by a near-constant stall warning or aerodynamic buffeting, with an aircraft configuration appropriate for that speed range;
- (d) demonstrate coordinated straight and level flight and a level turn, with an angle of bank of 15 degrees in flight near minimum controllable airspeed;
- (e) prevent a stall;
- (f) maintain specified altitudes ( $\pm 100$  feet), headings ( $\pm 10^\circ$ ) and angles of bank ( $\pm 5^\circ$ );
- (g) roll out on specified headings ( $\pm 10^\circ$ ); and
- (h) on command, recover promptly and smoothly to normal flight.

**Note:** Avoid prolonged periods in slow flight to prevent possible overheating of some engine components.

## Ex. 12 Stall

### A - Power-off

#### *Aim*

To determine that the candidate can recognize indications of the approach to arrival stalls, the full stall and can accomplish a positive recovery without excessive loss of altitude.

#### *Description*

**At an operationally safe altitude** that allows recovery at or above 2,000 feet AGL, or the minimum height recommended by the manufacturer, whichever is higher, the stall manoeuvre will be entered from a power off situation. The examiner will specify the aeroplane configuration for the stall demonstration.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) complete appropriate safety precautions before entering a stall;
- (b) establish the specified configuration;
- (c) transition smoothly to a pitch attitude that will induce a stall;
- (d) recognize the onset of the stall by identifying the first aerodynamic buffeting or decay of control effectiveness;
- (e) stall the aeroplane;
- (f) maintain directional control;
- (g) promptly and smoothly recover using control applications in the proper sequence;
- (h) avoid a secondary stall and excessive airspeed or altitude loss.

### B - Power-on

#### *Aim*

To determine that the candidate can recognize indications of the approach to departure or overshoot stalls, the full stall, and can accomplish a positive recovery without excessive loss of altitude.

#### *Description*

**At an operationally safe altitude** that allows recovery at or above 2,000 feet AGL or the altitude recommended by the manufacturer, whichever is higher, the stall manoeuvre will be entered from a power-on situation. The examiner will specify the aeroplane configuration for the stall demonstration.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) complete appropriate safety precautions before entering a stall;
- (b) establish the configuration and power setting as specified by the examiner;
- (c) transition smoothly to a pitch attitude that will induce a stall;
- (d) recognize the onset of the stall by identifying the first aerodynamic buffeting or decay of control effectiveness;
- (e) stall the aeroplane;
- (f) maintain directional control;
- (g) promptly and smoothly recover using control applications in the proper sequence;
- (h) avoid a secondary stall and excessive airspeed or altitude loss.

## Ex. 14 SPIRAL

### *Aim*

To determine the candidate's ability to recognize a spiral dive and to effect a smooth, safe recovery to straight and level flight.

### *Description*

The examiner will initiate this manoeuvre from an over-banked steep turn or an incorrect spin entry. Control will be given to the candidate, when the spiral is established. On assuming control, the candidate will be expected to commence recovery immediately.

Recovery will be completed at a height specified by the manufacturer, or no less than 2,000 feet above ground, whichever is greater.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) recover promptly and smoothly using control applications in the proper sequence; and
- (b) return smoothly to straight and level flight without excessive loss of altitude
- (c) avoid exceeding any operating limitation of the aeroplane.

## Ex. 15 Slipping

### *Aim*

To determine that the candidate can demonstrate a safe and effective slipping manoeuvre to increase a rate of descent or for crosswind landing conditions.

### *Description*

The candidate will be required to demonstrate a forward slip or a slipping turn to increase a rate of descent or a slip to correct for crosswind conditions during a landing. Slipping may be assessed during any of the landing approaches, including the precautionary or forced landing approaches.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) smoothly establish an effective slip;
- (b) perform a slip appropriate to the flight profile or crosswind conditions;
- (c) in the case of a forward slip, maintain the intended flight path.
- (d) recover smoothly to coordinated flight;

**Note: Any significant skidding manoeuvre is unacceptable.**

## Ex. 16 Takeoff

The candidate will demonstrate:

- (a) normal takeoff; and
- (b) a short field takeoff, or a soft field takeoff

Where practicable, at least one of the takeoffs will be based on the previously calculated performance. If conditions permit, one of the takeoffs should be completed under crosswind conditions.

For the purpose of this exercise, the examiner may specify simulated conditions for the takeoff such as surface conditions, obstacles to be cleared and available runway length.

**Note 1:** The candidate must be able to explain the operational necessity for any variation from recommended speeds, e.g. gusty or crosswind conditions.

**Note 2:** Prior to take-off, in the interest of better cockpit co-ordination, the candidate will complete a crew briefing with the examiner on the intended departure procedure, takeoff considerations and procedures to be used in the event of an actual engine failure during the takeoff and initial climb.

### A. Normal Takeoff

#### *Aim*

To determine the candidate's ability to safely conduct a normal takeoff using the correct procedure and technique for the actual or simulated wind conditions, runway surface and length, and to assess the possibility of further conditions such as wind shear and wake turbulence.

#### *Description*

The candidate will conduct a takeoff from a prepared surface and will apply the recommended techniques and procedures for a normal takeoff.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) complete appropriate checklists;
- (c) position the flight controls and configure the aeroplane for the existing or simulated conditions;
- (d) check for traffic, taxi into the take-off position, and align the aeroplane on the runway centreline;
- (e) advance the throttle smoothly to take-off power;
- (f) confirm that take-off power has been achieved;
- (g) maintain directional control during the take-off roll;
- (h) rotate at the recommended airspeed (+10/–5 knots);
- (i) accelerate to and maintain the recommended climb speed (+10/–5 knots);
- (j) retract the landing gear (where applicable) at a safe height;
- (k) maintain take-off power to a safe height then, where applicable, set climb power;
- (l) eliminate drift and track along runway centreline and extended centreline;
- (m) comply with noise abatement procedures;
- (n) complete appropriate checks.

## **B.1 Short-Field Takeoff**

### *Aim*

To determine the candidate's ability to safely take off from a short field and clear an obstacle, using the correct procedure and technique for the actual or simulated wind conditions, runway length and obstacles to be cleared, and to assess the possibility of further conditions such as wind shear and wake turbulence.

### *Description*

For the purpose of this exercise, the examiner will specify simulated conditions, such as available runway length and obstacles to be cleared for the short-field takeoff.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) complete appropriate checklists;
- (c) specify a GO/NO GO decision point to the examiner;
- (d) position the flight controls and configure the aeroplane for the actual or simulated conditions;
- (e) check for traffic and taxi into position for maximum utilization of available take-off distance;
- (f) advance the throttle smoothly to take-off power while holding brakes;
- (g) confirm static take-off power has been achieved;
- (h) maintain directional control during the take-off roll;
- (i) rotate at the recommended airspeed, lift off and accelerate to the recommended obstacle clearance airspeed;
- (j) establish the pitch attitude for the recommended obstacle clearance airspeed, and maintain that speed (+10/-5 knots) until any actual or simulated obstacle is cleared or until reaching 50 feet AGL;
- (k) retract the landing gear (where applicable) at a safe height;
- (l) retract flaps (where applicable) at a safe height and above the minimum recommended flap retraction speed;
- (m) maintain take-off power to a safe height, then, where applicable, set climb power ( $\pm 0.5''$  MP,  $\pm 50$  RPM);
- (n) maintain directional control and apply drift correction in the climb;
- (o) complete appropriate checks.



## **B.2 Soft-Field Takeoff**

### *Aim*

To determine the candidate's ability to safely take off from an actual or simulated grass, gravel or rough surface (no pavement or concrete) using the correct procedure and technique for the actual or simulated wind conditions, runway surface and length, and to assess the possibility of further conditions such as wind shear and mechanical turbulence.

### *Description*

For the purpose of this exercise, the examiner will specify simulated conditions for the soft-field takeoff such as surface conditions, obstacles to be cleared and available runway length.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) complete appropriate checklists;
- (c) position the flight controls and configure the aeroplane for the existing or simulated conditions;
- (d) specify a GO/NO GO decision point to the examiner;
- (e) check for traffic and taxi onto the take-off surface at a safe speed while keeping the nosewheel as light as possible and, without stopping, advance the throttle smoothly to take-off power (ATC instructions must be complied with);
- (f) confirm that take-off power has been achieved;
- (g) maintain directional control during the take-off roll;
- (h) establish and maintain a pitch attitude that will effectively and efficiently transfer the weight of the aeroplane from the wheels to the wings;
- (i) lift off at the slowest airspeed commensurate with safety in existing conditions;
- (j) remain in ground effect and accelerate to  $V_X$  or  $V_Y$ , as obstacles may dictate;
- (k) establish the pitch attitude for the recommended climb speed and maintain that speed (+10/-5 knots);
- (l) retract the landing gear (where applicable) at a safe height;
- (m) retract flaps (where applicable) at a safe height and above the recommended minimum speed;
- (n) maintain take-off power to a safe height, then, where applicable, set climb power ( $\pm 0.5$ " MP,  $\pm 50$  RPM);
- (o) maintain directional control and apply drift correction in the climb;
- (p) complete appropriate checks.

## Ex. 17 Circuit

### *Aim*

To determine that the candidate can operate the aeroplane in a safe manner in the vicinity of a controlled and/or uncontrolled aerodrome.

### *Description*

The candidate will demonstrate correct circuit procedures, including departure and joining procedures for both controlled and uncontrolled aerodromes. When the location of the flight test does not allow demonstration of both uncontrolled and controlled aerodrome circuit procedures, the examiner will assess the candidate by questioning about the procedures that cannot be demonstrated. The ability to comply with MF/ATF procedures and ATC clearances or instructions while maintaining separation from other aircraft will be demonstrated.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) fly an accurate circuit while maintaining a safe separation from other aircraft;
- (b) comply with actual or simulated ATC clearances or instructions;
- (c) comply with circuit entry and departure procedures;
- (d) comply with established circuit patterns;
- (e) transmit the required radio calls;
- (f) correct for wind drift to maintain the desired ground track;
- (g) remain oriented with the runway/landing area in use;
- (h) maintain circuit altitude ( $\pm 100$  feet) and an appropriate airspeed;
- (i) complete appropriate checklists;
- (j) avoid wake turbulence and follow applicable noise abatement procedures, as required;
- (k) comply with other procedures that may be in effect at the time.

## Ex. 18 Approach and Landing

The candidate will demonstrate:

- (a) a normal landing; and
- (b) a short-field landing over an obstacle **or** a soft-field landing; and
- (c) an overshoot.

Assessment of approaches and landings will be based on the candidate's ability to select the proper approach profile for the actual or simulated conditions. Where practicable, one of the landings should be based on the previously calculated performance. If conditions and traffic permit, at least one of the landings should be completed under crosswind conditions. "Touch and Go" landings are not permitted for the evaluation of landings.

The candidate will be expected to use the correct procedure and technique for the actual wind conditions, landing surface and length or those specified by the examiner, to assess the possibility of further conditions such as wind shear and wake turbulence, and to execute overshoot procedures.

**Note:** The candidate must be able to explain the necessity for any variation from recommended speeds, e.g. gusty or crosswind conditions.

## A. Normal Approach and Landing

### *Aim*

To determine the candidate's ability to execute a normal approach and landing as recommended by the POH/AFM or published best practices.

### *Description*

The candidate is expected to conduct a normal approach and landing using the correct recommended procedure and technique for the actual wind conditions, landing surface and length or those specified by the examiner, to assess the possibility of further conditions such as wind shear and wake turbulence.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) consider the wind conditions, landing surface and obstructions;
- (c) select a specific touchdown point;
- (d) establish the recommended approach and landing configuration;
- (e) maintain a stabilized approach at the recommended airspeed, or in its absence,  $1.3 V_{SO}$ , (+10/-5 knots);
- (f) maintain crosswind correction and directional control throughout the approach and landing;
- (g) make smooth, timely and correct control applications during the approach and landing;
- (h) touch down smoothly at a minimum speed for existing conditions, at the specified touch-down point (+400/-100 feet);
- (i) touch down with no drift and with the aeroplane's longitudinal axis aligned with and within 15 feet of the centre of the landing surface;
- (j) touch down in accordance with the POH/AFM or best accepted practice for the aeroplane type;
- (k) apply brakes, as necessary, without excessive lockup or skidding;
- (l) complete appropriate checks.

## B. Short-Field and Soft-Field Landings

### *Aim*

To determine the candidate's ability to safely execute a short-field approach and landing over an actual or simulated obstacle as recommended by the POH/AFM or to execute a soft-field landing using recognized best practices

### *Description*

For the short or soft-field approach and landing, the examiner will clearly specify the simulated surface conditions, obstacles on approach, landing threshold and length of surface available to the candidate. Should the candidate realize, **prior to the landing flare**, that a short-field landing could not be achieved in the intended touchdown zone, an overshoot for a second attempt is acceptable.

### B.1 Short-Field Approach and Landing over an Obstacle

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) consider the wind conditions and actual or simulated landing surface and obstacles;
- (c) select the most suitable touchdown zone and specify a touchdown point;
- (d) execute the initial approach using recommended airspeeds and configurations;

- (e) fly a final approach profile that clears any actual or simulated obstacle, and results in the appropriate configuration and one of the following speeds ( $V_{REF}$ ) at a height of 50 feet:
  - (i) the recommended final approach speed (+10/-5 knots); or
  - (ii)  $1.3 V_{SO}$  (+10/-5 knots); or
  - (iii) the minimum safe speed for existing conditions e.g. gusty or crosswind conditions.
- (f) maintain crosswind correction and directional control throughout the approach and landing;
- (g) make smooth, timely and correct control applications during the landing flare and touchdown;
- (h) touch down at the specified touchdown point (+200/-50 feet) in accordance with the POH/AFM or best accepted practice for the aeroplane type;
- (i) touch down with no side drift, and with the longitudinal axis aligned with and within 15 feet of the centre of the landing surface;
- (j) apply brakes, without excessive lockup or skidding and stop safely in the shortest distance;
- (k) complete appropriate checks.

## **B.2 Soft-Field Approach and Landing**

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform an effective passenger safety review;
- (b) consider the wind conditions, obstructions and actual or simulated landing surface;
- (c) select the most suitable touchdown zone;
- (d) execute the initial approach using recommended airspeeds and configurations;
- (e) fly a final approach profile that clears any actual or simulated obstacle, and results in the appropriate configuration and one of the following speeds ( $V_{REF}$ ) at a height of 50 feet:
  - (i) the recommended final approach speed (+10/-5 knots); or
  - (ii)  $1.3 V_{SO}$  (+10/-5 knots); or
  - (iii) the minimum safe speed for existing conditions (E.g. gusty or crosswind conditions).
- (f) maintain crosswind correction and directional control throughout the approach and landing;
- (g) touch down in the first one third (1/3) of the runway/landing surface;
- (h) touch down using power as necessary to achieve and maintain the landing attitude for the slowest possible touch down on the main wheels;
- (i) keep the nose wheel off the ground as long as possible with appropriate use of power and elevator control, while decelerating in consideration of the remaining length of available runway;
- (j) complete appropriate checks.

## **C. Overshoot**

### *Aim*

To determine the candidate's ability to execute an overshoot as recommended by the POH/AFM or published best practices.

### *Description*

The overshoot may be called for by the examiner and assessed from any of the landing approaches, the forced landing or precautionary landing.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) respond upon command to overshoot or make a timely decision to discontinue the approach to landing;
- (b) promptly and smoothly apply maximum allowable power and establish the pitch attitude that will

- stop the descent;
- (c) retract flaps in stages or as recommended by the manufacturer;
- (d) retract the landing gear (where applicable) after a positive rate of climb is established, or as recommended by the manufacturer;
- (e) accelerate to and maintain the recommended climb speed (+10/−5 knots);
- (f) maintain maximum allowable power to a safe manoeuvring altitude then, where applicable, set climb power;
- (g) complete the appropriate checks.

## Ex. 21 Precautionary Landing

### *Aim*

To determine the candidate's ability to carry out the procedure for evaluating an unfamiliar aerodrome or a landing area where the suitability of the landing surface is unknown.

### *Description*

The examiner will outline a scenario requiring a landing. Scenarios may include a landing at an aerodrome of unknown condition or an off-field landing due to a deteriorating condition. The candidate must select a suitable landing area, determine the landing path and use a planned procedure to fly an accurate approach. While an actual landing may not be required, the approach flown should be such that a successful landing could have been accomplished in the pre-selected touchdown zone.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) select a suitable airstrip or other area on which a safe landing could be made;
- (b) comply with circuit procedures at an aerodrome;
- (c) make appropriate radio calls (simulated or actual);
- (d) evaluate the wind conditions, landing surface and obstructions;
- (e) select the most suitable touchdown zone;
- (f) establish the circuit at an appropriate distance from the airstrip/landing area;
- (g) remain oriented with the airstrip/landing area in use;
- (h) perform an effective passenger safety review for landing;
- (i) establish the recommended configuration for the precautionary approach while in straight and level flight;
- (j) execute a stabilized approach for the low-level inspection at the recommended airspeed (+10/−5 knots);
- (k) overfly the landing area in stabilized level flight at a safe height and airspeed that will permit an effective assessment of surface conditions;
- (l) determine the suitability of the intended landing surface;
- (m) indicate the type of landing to be used and perform a final approach in a manner that would permit touch down within the selected touchdown zone;
- (n) maintain crosswind correction and directional control throughout the approaches and the landing;
- (o) complete appropriate checks.

**Note:** The candidate must communicate the intended height for the low-level inspection and explain the operational necessity for any variation from recommended speeds, e.g. gusty or crosswind conditions.

## Ex. 22 Forced Landing

### *Aim*

To determine that the candidate can, in the event of an engine failure, plan, manage and safely carry out a successful landing on a suitable landing area.

### *Description*

Engine failure will be simulated without advance warning by the examiner by closing the throttle to idle or by bringing the power lever to flight idle, as applicable. While accomplishing the required emergency procedures, the candidate will be expected to use good decision-making and fly a safe approach to a suitable landing area so that a safe landing could be made if the approach were continued to the ground.

Unless the intent is to execute a landing on a suitable surface, an overshoot will be carried out when requested by the examiner at an operationally safe altitude.

### **A. Control/Approach**

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) control the aeroplane and initially establish the recommended best glide speed (+10/-5 knots);
- (b) specify a suitable landing area and touchdown zone;
- (c) fly an organized approach to the selected touchdown zone, considering aircraft altitude, wind conditions, terrain, obstructions and other factors;

**Note 1:** After initially establishing the recommended glide speed, the candidate may vary the airspeed and flight profile, as required to achieve a successful and safe approach, without exceeding any aircraft limitations.

**Note 2:** A change of field is acceptable from an altitude or point in the approach where a landing could still have been made on the original landing site.

### **B. Cockpit Management**

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) complete the basic vital actions from memory;
- (b) follow-up with a placard or a checklist for 'Engine Failure In Flight' emergency procedures, if time permits;
- (c) simulate an appropriate radio call, when time permits; and
- (d) perform an effective passenger emergency safety review.

**Note:** The candidate is expected to clear the engine at appropriate intervals during the descent. In very cold conditions, it is acceptable for the candidate to configure the aeroplane by lowering some flap and using some residual power to achieve a normal power-off gliding descent angle and airspeed.

## Ex. 23 Pilot Navigation

### A. Pre-Flight Planning Procedures (Ground Item)

#### *Aim*

To determine that the candidate can efficiently plan a VFR cross-country flight and demonstrate practical knowledge by explaining elements related to cross-country flight planning.

#### *Description*

The candidate will plan a VFR cross-country flight, including one intermediate stop, to an assigned destination at least 2 hours cruising range distance in the aeroplane being used for the flight test.

The cross-country flight can be assigned in advance and the candidate can make preliminary preparations such as route selection, map preparation, determination of tracks, distances, selection of possible alternates and initial navigational log entries before the flight test.

Flight planning will be completed based on real time weather, and a loading scenario with all or most passenger seats occupied and a significant baggage load, as specified by the examiner.

Software-generated flight planning is acceptable, but the candidate must be able to explain some of the key elements of flight planning such as estimated time en route, fuel requirements, contingencies, etc.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) use appropriate and current aeronautical charts and other current flight publications to extract and record pertinent information;
- (b) properly identify airspace, obstructions, terrain features and map symbols;
- (c) obtain pertinent information about the en route and destination airports;
- (d) retrieve and interpret weather information and NOTAMs relevant to the intended flight;
- (e) determine the acceptability of the departure and destination runways under existing or forecast conditions;
- (f) select a safe and efficient route;
- (g) prepare contingency plans for intermediate or alternate destinations;
- (h) select the most favourable and appropriate altitudes, considering weather conditions and equipment capabilities;
- (i) prepare a chart and a navigational log, including estimated headings, ground speed, fuel requirements and time en route;
- (j) make a competent "GO/NO-GO" decision based on available information for the cross-country flight;
- (k) complete an ICAO VFR flight plan and simulate filing with the examiner;
- (l) complete planning, preparations and calculations, **excluding** weight and balance computations for the actual test flight, within one (1) hour.
- (m) demonstrate practical knowledge of how to determine certain key elements of flight planning such as estimated time enroute and fuel requirements.

## **B. Departure Procedure**

### *Aim*

To determine that the candidate can perform an organized and efficient departure.

### *Description*

When requested by the examiner, the candidate will be expected to depart on the cross-country flight as planned.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) note takeoff time;
- (b) use an organized and efficient procedure to intercept the pre-planned track;
- (c) comply with all departure clearances and instructions;
- (d) activate the flight plan with ATS or simulate an activation with the examiner;
- (e) set the heading indicator by reference to the magnetic compass or other acceptable means;
- (f) note set heading time;
- (g) estimate the time of arrival for the first turning point or destination;
- (h) complete appropriate checks.

## **C. En Route Procedure**

### *Aim*

To determine that the candidate can effectively apply systematic VFR navigation techniques.

### *Description*

After setting heading, the flight will continue until the candidate, using systematic navigation techniques, establishes and confirms the heading and timing required to fly to the first turning point or destination.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) correctly use materials and equipment;
- (b) maintain cruising altitudes ( $\pm 200$  feet), and headings ( $\pm 10^\circ$ );
- (c) verify that planned cruise performance has been achieved, i.e. power and KTAS;
- (d) navigate by applying systematic navigation techniques (not track crawling);
- (e) within 15 minutes after setting heading, demonstrate an organized method that would:
  - (i) verify the position of the aircraft;
  - (ii) revise headings to correct any existing track error to maintain the aircraft position within three (3) nautical miles of the route;
  - (iii) confirm or revise the ETA for the first turning point or destination; and
  - (iv) confirm fuel requirements.



## D. Diversion to an Alternate

### *Aim*

To determine that the candidate can safely carry out a diversion to a suitable alternate destination using mental in-flight planning, dead reckoning, map reading and pilotage.

### *Description*

In response to a scenario presented by the examiner, the candidate will demonstrate the ability to select a suitable alternate destination that is within the actual or a simulated fuel range of the aeroplane. The candidate will carry out a diversion towards the selected destination, or alternatively in the interest of flight test efficiency, towards another destination selected by the examiner.

The candidate is expected to initiate the diversion without undue delay. This will require extensive ground training and practice to improve the candidate's ability to quickly determine a track to follow, an approximate heading and an approximate time enroute without the need to loiter in a holding pattern.

The examiner will specify an initial altitude to fly. When practicable, a part or all of the diversion should be conducted at a height of between 500 and 1000 feet above ground or at a minimum safe altitude, if it is higher. The candidate may change altitudes to suit the topography or the scenario and is expected to communicate intentional altitude changes to the examiner. The candidate is expected to maintain declared altitudes within  $\pm 200$  feet. Estimated en route and arrival times may be approximate but should have a reasonable degree of accuracy.

The examiner will assess the candidate's ability to proceed toward an alternate destination by using dead-reckoning or by following a series of geographic features such as roads, railways or rivers, where they are available. The diversion will be continued until at least the stage where the aeroplane is established on the proposed track to the alternate or is following a suitable geographic feature; in a manner demonstrating that arrival at the destination is predictable.

Rulers, notched pencils, protractors, computers or radio navigation aids will not be used for this procedure.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) perform the following tasks expeditiously:
  - (i) identify and record present position;
  - (ii) select an appropriate alternate destination;
  - (iii) estimate an initial heading to fly direct, based on a track line; **OR**
  - (iv) select a series of geographical references that would lead to the destination;
  - (v) estimate an approximate time en route to the alternate destination; and
  - (vi) estimate an approximate available flight time that will remain with the fuel on board upon arrival at the destination (E.g.: 2 hours+15 minutes);
- (b) intercept the proposed track and divert toward the alternate destination;
- (c) identify the highest Maximum Elevation Figure (MEF) along the selected route and determine a minimum safe altitude for the actual route;
- (d) select an aircraft configuration and airspeed appropriate for the actual or simulated conditions, if those conditions include poor visibility (for optimum "See and Avoid");
- (e) provide an initial ETA when setting heading and confirm or revise that time while en route;
- (f) maintain the selected airspeed ( $\pm 10$  knots) and selected headings, when dead-reckoning ( $\pm 10^\circ$ );
- (g) maintain declared altitudes ( $\pm 200$  feet);
- (h) establish or simulate communication with ATS to inform of intention to divert.

## Ex. 24 Instrument Flying

**Note:** *This exercise will require a suitable view-limiting device.*

### A. Full Panel

#### *Aim*

To determine that the applicant is able to control and manoeuvre the aeroplane solely by reference to flight instruments.

#### *Description*

The candidate will be required to fly the aeroplane solely by reference to flight instruments. Using available flight instruments the candidate will be asked to:

- (a) maintain co-coordinated straight and level flight for 2 minutes;
- (b) carry out a level rate-one turn through 180° to a reciprocal compass heading and, on completion;
- (c) maintain co-coordinated straight and level flight for a further 2 minutes.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to control and manoeuvre the airplane within:

- (a)  $\pm 15^\circ$  of the assigned heading;
- (b)  $\pm 200$  feet of the assigned altitude;
- (c)  $\pm 15$  knots of the assigned airspeed;
- (d) an angle of bank not to exceed the limit (peg) of the turn and bank indicator/turn-coordinator.

### B. Recovery from Unusual Attitude

#### *Aim*

To determine that the candidate is able to promptly recover, using available flight instruments, from one unusual attitude.

#### *Description*

The examiner will take control and fly the aeroplane into an unusual attitude, either nose-up or nose-down, then transfer control to the candidate and call for recovery. Using available flight instruments, the candidate will be required to promptly recover with minimum loss of altitude from one unusual attitude.

#### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) recognize promptly what the aeroplane is doing by reference to the flight instruments;
- (b) take immediate and correct recovery action;
- (c) recover smoothly with minimum loss of altitude and without excessive airspeed;
- (d) maintain co-coordinated flight.

## **Ex. 29 Emergency Procedures/Malfunctions**

### *Aim*

To determine that the candidate can react promptly and correctly to emergencies and system or equipment malfunctions.

### *Description*

The candidate will demonstrate adequate knowledge of the emergency procedures of the systems, subsystems and devices installed on the aeroplane type. Assessment may be carried out during any portion of the flight test. One of the emergencies should be simulated while airborne.

### *Performance Criteria*

Assessment will be based on the candidate's ability to analyze a situation, take appropriate action and follow appropriate memory items, emergency checklists items and/or procedures for any two (2) of the following simulated emergencies/malfunctions, as specified by the examiner:

- (a) partial power loss
- (b) rough engine operation or overheat
- (c) loss of oil pressure
- (d) fuel starvation
- (e) electrical fire
- (f) vacuum system failure
- (g) pitot or static blockage
- (h) cabin fire
- (i) icing
- (j) electrical malfunctions
- (k) landing gear malfunctions
- (l) brake failure or seizure
- (m) flap failure
- (n) door opening in flight
- (o) spin recovery
- (p) emergency descent
- (q) any other emergency unique to the aeroplane flown

It is the sole responsibility of the examiner to determine if aeroplane performance, weather conditions and other factors permit the safe conduct of an emergency procedure in flight or on the ground with the engine running. Some of the items may be tested on the ground with the engine shut down

## Ex. 30 Radio Communication

### *Aim*

To determine that the candidate can communicate with Air Traffic Services facilities and obtain assistance from those facilities to permit the safe and efficient conduct of the flight.

### *Description*

The candidate will demonstrate or explain the correct procedures for the use of radio communication equipment available on board the aircraft. The candidate must demonstrate the ability to obtain information relevant to the flight and to obtain, respond to and act upon ATC clearances and instructions.

Where suitable air traffic services are not available, the examiner may play the role of air traffic services.

### *Performance Criteria*

Assessment will be based on the candidate's ability to:

- (a) select appropriate frequencies for facilities to be used;
- (b) transmit using recommended phraseology;
- (c) acknowledge and comply with radio communications and ATC instructions;
- (d) comply with or demonstrate a practical knowledge of ATC light signals;
- (e) demonstrate or explain the correct procedure for obtaining emergency radar assistance or a Special VFR clearance;
- (f) obtain weather information from a radio facility;
- (g) use correct emergency communication procedures.

## How to Pass the Flight Test

Instructors prepare their students for the flight test with every training trip. They do this by helping the student master all the flight exercises, but they also let the student take more and more responsibility for decision-making with each lesson, so the student will be fully ready to make **all** the decisions during the flight test.

Here are some tips on how to pass the flight test:

- (a) Review the flight test guide with your instructor before the flight test.
- (b) An instructor will do a pre-test evaluation, a simulated flight test, before recommending you for the real test.
- (c) Be rested and arrive early.
- (d) The test measures your skill, item by item. If you think you did poorly on one item, try very hard to focus on the immediate task and don't let yourself be pre-occupied with an item you already completed. Besides, you may have done better than you thought.
- (e) Don't be afraid to ask the examiner if you are unsure what is expected of you. The examiner will either tell you what you need to know or tell you that you have to work with the information you have. You can't lose by asking.
- (f) Tell the examiner what you are planning to do before you do it.
- (g) The flight test is not a race. Don't put additional pressure on yourself by rushing.
- (h) "Visualize" the flight test in advance by thinking through all the manoeuvres you will perform and developing mental pictures of what you are going to be doing.
- (i) Difficult as this may be, try to think of the examiner as your very first passenger with your new licence. Keep the examiner informed, as you would keep a passenger informed.

## RECOMMENDATION FOR FLIGHT TEST PRIVATE PILOT LICENCE

Name of Candidate (Print)	Licence/Permit Number
Flight Experience Dual <span style="margin-left: 150px;">Solo</span>	

I, the undersigned instructor, certify that the above named candidate meets the minimum experience requirements of section 421.14 of the *Personnel Licensing Standards* and certify that a pre-test evaluation of all flight test items was conducted with the candidate.

I consider the candidate to have reached a sufficient level of competency to complete the flight test required for the issuance of the Private Pilot Licence – Aeroplane and hereby recommend the candidate for the flight test.

I further certify that I am qualified through the privileges of my pilot licence to make this recommendation.

Name of Instructor Recommending Test (Print)	Class	Licence Number
Signature	Date	Flight Training Unit
Name of Supervising Instructor (if recommending instructor is Class 4) (Print)	Licence Number	
Signature	Date	

## RECOMMENDATION FOR PARTIAL FLIGHT TEST PRIVATE PILOT LICENCE

Name of Candidate (Print)	Licence/Permit Number
Flight Experience Dual <span style="margin-left: 150px;">Solo</span>	Flight Training Unit ID Number

I have conducted a review of the test item(s) \_\_\_\_\_ and have completed additional training with this candidate.

I consider the candidate to have reached a sufficient level of competency to successfully complete the flight test for the issuance of the Private Pilot Licence - Aeroplane and hereby recommend the candidate for the partial flight test; and

I further certify that I am qualified through the privileges of my pilot licence to make this recommendation.

Name of Instructor Recommending Test (Print)	Class	Licence Number
Signature	Date	Flight Training Unit
Name of Supervising Instructor (if recommending instructor is Class 4) (Print)	Licence Number	
Signature	Date	