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Flight Test Guide

# **INSTRUMENT RATING GROUP 4 HELICOPTER**

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Canada

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# FLIGHT TEST GUIDE—INSTRUMENT RATING

## INSTRUMENT RATING GROUP

This flight test guide sets out the techniques, procedures and the marking criteria to be used by Transport Canada Inspectors and Pilot Examiners for the conduct of the flight test required for the issuance of the Instrument Rating Group 4 (Helicopter).

It is intended for the use of flight test candidates, flight training units, and flight instructors.

## DEFINITIONS

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

**Examiner:** means a Pilot Examiner, accredited under Part 1 Section 4.3(1) of the *Aeronautics Act*, or a Transport Canada Civil Aviation Inspector authorized to conduct this flight test.

**‘precision approach’** means an ILS or LPV approach that provides lateral and vertical guidance and has the approach criteria published on an officially recognized approach chart.

## ACRONYMS

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<b>AAE:</b>	Above aerodrome elevation	<b>MAP:</b>	Missed approach point
<b>ATC:</b>	Air traffic control	<b>MAWP:</b>	Missed approach waypoint
<b>ATS:</b>	Air traffic service	<b>MDA:</b>	Minimum descent altitude
<b>BC:</b>	Back course	<b>METAR:</b>	Aviation routine weather report
<b>CAD:</b>	Canadian Aviation Document	<b>NDB:</b>	Non-directional beacon
<b>CAP:</b>	Canada Air Pilot	<b>OEI:</b>	One engine inoperative
<b>CAIRS:</b>	Civil Aviation Issues Reporting System	<b>PIREPS:</b>	Pilot weather report
<b>CAR:</b>	Canadian Aviation Regulation	<b>POH:</b>	Pilot Operating Handbook
<b>DA:</b>	Decision altitude	<b>RAIM:</b>	Receiver autonomous integrity monitoring
<b>DH:</b>	Decision height	<b>RFM:</b>	Rotorcraft Flight Manual
<b>DME:</b>	Distance measuring equipment	<b>RNAV:</b>	Area navigation
<b>FAWP:</b>	Final approach waypoint	<b>RVOP:</b>	Reduced visibility operations plan
<b>FD:</b>	Upper level wind and temperature forecasts	<b>SIGMET:</b>	Significant meteorological information
<b>FFS:</b>	Full-flight simulator	<b>SIGWX:</b>	Significant weather prognostic charts
<b>GFA:</b>	Graphic area forecast	<b>SOP:</b>	Standard Operating Procedures
<b>GNSS:</b>	Global navigation satellite system	<b>TAF:</b>	Terminal aerodrome forecast
<b>GPS:</b>	Global positioning system	<b>TATC:</b>	Transportation Appeal Tribunal of Canada
<b>IFR:</b>	Instrument Flight Rules	<b>TSO:</b>	Technical Standard Order
<b>ILS:</b>	Instrument landing system	<b>VFR:</b>	Visual Flight Rules
<b>IMC:</b>	Instrument meteorological conditions	<b>VOR:</b>	Very high frequency omnidirectional range
<b>LOC:</b>	localizer	<b>VMC:</b>	Visual meteorological conditions
<b>LPV:</b>	Localizer performance with vertical guidance		
<b>LVOP:</b>	Low visibility operations plan		

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## TABLE OF CONTENTS

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<b>DEFINITIONS .....</b>	<b>i</b>
<b>ACRONYMS .....</b>	<b>i</b>
<b>GENERAL.....</b>	<b>1</b>
ADMISSION TO FLIGHT TEST - INITIAL .....	1
ADMISSION TO A PARTIAL FLIGHT TEST .....	1
ADMISSION TO A COMPLETE RE-TEST .....	1
ADMISSION TO FLIGHT TEST – RENEWAL .....	2
HELICOPTER AND FULL-FLIGHT SIMULATOR.....	2
FLIGHT TEST .....	4
REPEATED FLIGHT TEST ITEM.....	5
INCOMPLETE FLIGHT TEST .....	5
FAILURE OF A FLIGHT TEST .....	6
PARTIAL FLIGHT TEST .....	7
COMPLETE RE-TEST .....	7
VALIDITY PERIODS .....	7
PRE-TEST BRIEFING.....	8
FLIGHT MANAGEMENT .....	9
FLIGHT TEST RESULTS.....	10
ASSESSMENT OF FLIGHT TEST PERFORMANCE.....	10
ERRORS.....	11
DEVIATIONS .....	11
4-POINT MARKING SCALE.....	12
<b>FLIGHT TEST ITEMS.....</b>	<b>13</b>
AIRMANSHIP.....	13
1. PRE-FLIGHT.....	13
2. IFR OPERATIONAL KNOWLEDGE (GROUND ITEM).....	15
3. AIR TRAFFIC CONTROL CLEARANCES.....	15
4. DEPARTURE .....	16
5. ENROUTE.....	17
6. ARRIVAL.....	17
7. HOLDING.....	18
8. APPROACHES .....	19

8. VOR, LOC, LOC/BC OR NDB INSTRUMENT APPROACH .....	19
8. ILS OR LPV INSTRUMENT APPROACH.....	20
8. RNAV(GNSS) INSTRUMENT APPROACH.....	21
9. MISSED APPROACH .....	22
10. TRANSITION TO LANDING .....	23
11. EMERGENCY PROCEDURES .....	24
<b>RECOMMENDATION FOR INITIAL FLIGHT TEST .....</b>	<b>27</b>
<b>RECOMMENDATION FOR PARTIAL FLIGHT TEST .....</b>	<b>28</b>

## GENERAL

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### ADMISSION TO FLIGHT TEST - INITIAL

In order to be admitted to a flight test required for the initial issue of an Instrument Rating, and to meet the requirements of CAR Standard 421.14, the candidate will present:

- a) a valid original government-issued photo identification with signature;
- b) a valid Pilot Licence;
- c) a letter of recommendation from a qualified person in accordance with 425.21(9) certifying that:
  - i) the candidate meets the requirements of CAR 421.14(4)(d);
  - ii) the candidate is considered competent to complete the flight test for the Instrument Rating; and
  - iii) the candidate is recommended for the flight test.
- d) proof of having successfully completed the written examination INRAT Instrument Rating (Helicopter) within the previous 24 months (CAR 400.03).

**Note 1:** A candidate that is the holder or has held a valid group 1, 2 or 3 IFR rating within the previous 24 months is considered as a renewal candidate.

**Note 2:** The successful completion of a flight test is one of the prerequisites for an application for the issuance of an Instrument Rating. Once all of the prerequisites are met, the candidate may submit an application directly to a Transport Canada office or through the services of an Authorized Person.

### 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 present:

- a) a valid original government-issued photo identification with signature;
- b) a valid Pilot Licence;
- c) a copy of the flight test report for the previously failed flight test; and
- d) a letter, signed by a person qualified in accordance with CAR 425.21(9) stating that the candidate:
  - i) has received further training on the previously failed flight test item;
  - ii) is considered to have reached a sufficient level of competency to successfully complete the flight test; and
  - iii) is recommended by the instructor or qualified person for the partial flight test.

### ADMISSION TO A COMPLETE RE-TEST

For admission to a complete re-test following the failure of a flight test for the **initial** issue of an Instrument Rating, the candidate will conform to the requirements set out in “Admission to Flight Test-Initial”.

For admission to a complete re-test following the failure of a flight test for the **renewal** of an Instrument Rating, the candidate will present a letter of recommendation signed by a person qualified in accordance with CAR 425.21(9) stating that the candidate is considered competent to complete a flight test.

### **ADMISSION TO FLIGHT TEST – RENEWAL**

In order to be admitted to a flight test required for the renewal of an Instrument Rating, the candidate will present:

- a) a valid original government-issued photo identification with signature;
- b) a valid Pilot Licence; and
- c) proof of holding, or having held within the previous 24 months, a valid Canadian Instrument Rating.

In order to be admitted to a partial flight test following failure of a flight test for the renewal of an Instrument Rating, the candidate will present:

- a) a valid original government-issued photo identification with signature;
- b) a valid Pilot Licence;
- c) a copy of the flight test report for the previously failed flight test; and
- d) a letter, signed by a person qualified in accordance with CAR 425.21(9) stating that the candidate:
  - i) has undergone additional training; and
  - ii) is considered competent for the flight test.

**Note:** If the Instrument Rating has been expired for more than 24 months, the requirements for admission to an initial flight test must be met.

### **HELICOPTER AND FULL-FLIGHT SIMULATOR**

The initial or the renewal flight test for the Instrument Rating may be conducted in a helicopter or in a full-flight simulator (FFS) meeting the requirements stated in this section.

#### **Helicopter Requirements**

A helicopter to be used for an Instrument Rating flight test will have a valid and current Canadian or Foreign Flight Authority in accordance with CAR 507 and meet the following requirements:

- a) be equipped with suitable radio and two-way intercom voice communication;
- b) be approved for Day or Night VFR;
- c) when flown on a simulated IFR flight in VMC, be equipped with a gyroscopic direction indicator or a stabilized magnetic direction indicator, an attitude indicator, a vertical speed indicator and an outside air temperature gauge. The helicopter must also be equipped of a minimum of two different radio navigation systems of which one of the systems can be used for a precision approach, if it is an initial ride;



- d) when flown on an IFR flight, the helicopter type must be approved for IFR flight in the RFM/POH or RFM/POH Supplement (CAR 602.07 – Aircraft Operating Limitations) and must meet the requirements of CAR 605.18 – Power-driven Aircraft – IFR; and
- e) be equipped in accordance with CAR 425.23 - Training Aircraft Requirements, Subsections (1) and (2) of the Personnel Licensing Standards with the exception that helicopters equipped with an electronic primary flight display are exempt from the requirements of Paragraphs 425.23(1)(c).

**Note:** If an instrument GPS approach is planned as part of the test, the GPS equipment must meet TSO requirements and be an approved installation.

### **Crew and Examiner Requirement**

- a) The examiner must be qualified on the helicopter type in accordance with the personnel licensing standards;
- b) In a single-pilot certified helicopter, the examiner will occupy a pilot seat;
- c) In a multi-crew certified helicopter the first officer will be qualified training pilot and current on the helicopter type;
- d) In a multi-crew certified helicopter, where an observer's seat is occupied by an examiner, it will:
  - i) be equipped with a safety harness installed in accordance with the *Airworthiness Standards*;
  - ii) be located to permit an unobstructed view of the helicopter instruments, radios and navigation equipment; and
  - iii) be equipped to monitor intercom and air to ground and air to air radio communications.

**Note:** In a multi-crew certified helicopter, a script describing the simulated emergency manoeuvres to be performed during the flight will be given to the first officer, who is a qualified training pilot on the type, before the flying portion of the flight test.

## Full-Flight Simulator Requirements

### General

Where a flight test is conducted in a full-flight simulator, the examiner must either be trained in the use of the device or must monitor the candidate's performance while an individual that has been trained to operate the device in accordance with an agreed-upon script.

Full-flight simulators used for pilot checking or testing, pursuant to Part VI of the *Canadian Aviation Regulations*, shall have a certificate issued by Transport Canada; as per CAR 606.03.

The full-flight simulator used for the Instrument Rating flight test shall be a Level B or higher approved in accordance with the *Aeroplane and Rotorcraft Simulator Manual (TP 9685)*. The pilot seats will only be occupied by the required crewmembers. In the case of helicopter simulator certified single-pilot IFR, only the candidate and the examiner would occupy pilot seats.

A flight test in a flight simulator will include all portions of a flight as conducted in a helicopter, i.e. normal starting procedures, takeoff, landing and shutdown procedures etc. Even though these items are not assessed as flight test items, they must be conducted in a safe manner.

### Other Equipment

The candidate will supply the following publications and ancillary equipment:

- a) appropriate and current electronic data bases, and officially recognized enroute, terminal and approach charts for the area where the flight test is to occur and, if the test is conducted in Canada, a current *Canada Flight Supplement*; and
- b) if the flight test is conducted in a full-flight simulator, when electronic databases have not yet been updated, the deficiency must be recorded and deferred. The matching charts must be retained until the deficiency has been rectified; or
- c) if the flight test is conducted in a helicopter, an effective means of excluding outside visual reference to simulate instrument flight conditions, while maintaining a safe level of visibility for the examiner or other flight crew.

### FLIGHT TEST

A candidate who holds a valid Pilot Licence, including a valid flight crew licence or rating issued by a contracting state or a Canadian military flight crew permit, licence or rating, may exercise the privileges of an Instrument Rating for the sole purpose of the candidate's Instrument Rating flight test.

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

Whenever practicable, flight tests for the Instrument Rating should be conducted in accordance with a filed IFR flight plan. The direct interaction between the candidate and ATS in an IFR controlled environment makes the test more realistic.

Suitable radio navigation facilities must be available to complete the flight test.

Autopilots may be used during the flight test but at least one of the approaches must be hand-flown (uncoupled) during the flight test for the initial qualification.

All of the required flight test items on the flight test report must be completed and the minimum pass mark for the Instrument Rating flight test of **39** (60%) must be achieved.

**Ground flight test items** are items **1A, 1B** and **2**.

**Air flight test items** are those items, tasks or manoeuvres performed directly with the helicopter, including emergency procedures.

Ground flight test items will be assessed before the flight portion of the flight test.

### **REPEATED FLIGHT TEST ITEM**

A flight test item or manoeuvre may be repeated if one of the following conditions applies:

**Discontinuance:** Discontinuance of a manoeuvre for valid safety reasons; i.e., a go-around or other procedure necessary to modify the originally planned manoeuvre.

**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.

**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.

**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 do not mean that instruction, practice or the repeating of an item or manoeuvre already unacceptably demonstrated is permitted during the flight test evaluation process.

### **INCOMPLETE FLIGHT TEST**

If the test is not completed due to valid circumstances beyond the candidate's control, (weather, mechanical, physiological reasons) the subsequent flight test will include the flight test items not completed on the original flight test. The flight test must be completed within 30 days of the original recommendation letter.

The following process will apply:

- a) a copy of the incomplete Flight Test Report must be presented 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 recommendation must still be 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 of the exercise is not achieved or safety is compromised;

- f) the original flight test report may be used to complete the test, or two separate reports may be submitted; and
- g) the candidate is permitted to complete additional training while awaiting completion of the test.

If the incomplete flight test included one failed air item, the partial flight test for that item may be conducted during the subsequent flight but only after the candidate has completed all of the required items, provided:

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

### **FAILURE OF A FLIGHT TEST**

Failure to achieve the minimum pass mark or the failure of any flight test item on the flight test report constitutes a failure of the flight test.

The failure of any ground item will require a complete re-test and will preclude the air portion of the flight test. Ground items are not eligible for a partial flight test.

If one air item is failed, the candidate will be eligible for a partial flight test on that item and the failure of a second air item will require a complete re-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 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). The document can be found at:

[www.tc.gc.ca/eng/civilaviation/opssvs/secretariat-cairs-menu-209.htm](http://www.tc.gc.ca/eng/civilaviation/opssvs/secretariat-cairs-menu-209.htm).

Where the holder of a **valid** instrument rating fails a flight test required for the renewal of the rating, the examiner will initiate the suspension process by contacting the Regional Office **no later than the next working day** to report the failure. The Regional Office will then issue a formal notice of suspension to the candidate.

### **NOTE: DO NOT STRIKETHROUGH ANY PRIVILEGE ON A CANADIAN AVIATION DOCUMENT.**

A pilot licence, including any ratings or endorsements attached to that licence, is a *Canadian Aviation Document* (CAD). The powers to suspend, cancel or refuse to renew a CAD, or any of its additional privileges, are set out in the *Aeronautics Act*.

Where the CAD already includes Instrument Rating privileges, the document holder has the right to appeal the Minister's decision, to suspend, cancel, refuse to issue or renew a CAD, before the Transportation Appeal Tribunal of Canada (TATC). The TATC may be contacted at:

Transportation Appeal Tribunal of Canada,  
333 Laurier Avenue West, 12th Floor, Room 1201  
Ottawa, ON K1A 0N5  
Tel.: 613-990-6906  
Fax: 613-990-9153

### **PARTIAL FLIGHT TEST**

Provided the applicable pass mark has been achieved and there is no more than one failed air item, the skill requirement for the issuance of the instrument rating may be met by completing a partial flight test of that item assessed “1”.

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

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

### **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 a ground item;
- c) failure of more than one air items during a complete flight test;
- d) failure of a flight test item during a partial flight test;
- e) displaying unsafe or dangerous behaviour;
- f) a demonstrated pattern of failing to use proper visual scanning techniques is displayed during the visual flight portions of 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 to avoid a prejudgement of the test.

### **VALIDITY PERIODS**

An instrument rating is valid for 24 months from the first day of the month following a flight test subject to the recency requirements of CAR 401.05. If a flight test for renewal of an instrument rating is passed within 90 days prior to its expiry, the renewed rating will keep the same anniversary date of the preceding instrument rating. For example, if the instrument rating expired on June 1<sup>st</sup> of a particular year and the flight test is completed within 90 days prior to June 1<sup>st</sup>, the renewed expiry date will remain June 1<sup>st</sup> two years later.

Examiners are authorized to endorse pilot licences, with temporary instrument rating privileges, when renewing instrument rating. These temporary privileges are valid for 90 days from the date of the endorsement or the receipt of a new licence label.

## PRE-TEST BRIEFING

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

- a) **The sequence of test items to be covered.** There is no need for the candidate to memorize the 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 wasn't 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. Nevertheless, the examiner reserves the right to exercise all reasonable duty and care to ensure safe flight by intervening or taking control of an aircraft when any action or lack of action by the candidate jeopardizes safety.
- d) **Who will do what in the event of an actual emergency or a system malfunction?** To be discussed and agreed upon prior of the flight.
- e) **How to transfer control.** There should never be any doubt as to who is flying the helicopter so proper transfer of control through the words "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) **Method of simulating emergencies or a system malfunctions.** A briefing by the examiner should specify the methods used to simulate emergencies. For example, it can be verbal for a chip detector, a communication failure, or an action by the examiner like blocking the pedals to simulate stuck pedals, turning the hydraulic switch to the OFF position, etc. In all cases when an emergency or a system malfunction is simulated, the examiner will make it clear that it is a simulation.

**Note 1:** In helicopters, engine failures will only be simulated in accordance with the manufacturer's recommendations or, in their absences, by reducing the power to idle. In cases where a helicopter is equipped with an OEI training mode switch or training module that can simulate single-engine performance, it is permitted and encouraged to make use of that equipment. The practice of pulling circuit breakers will not be used during a flight test.

**Note 2:** Failures of electronic flight or map displays may be simulated in accordance with the training and testing recommendations and/or the handbooks supplied by the equipment manufacturer. In helicopters the examiner will apply discretion, as to the wisdom of creating a simulated failure, based on the existing flight conditions and on his/her familiarity with the specific equipment, in order to ensure safety of flight.

## **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 a manoeuvre 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, helicopter systems, instruments, ATC communications.
- b) Avoids “tunnel vision” - awareness that factors such as stress can reduce vigilance.
- c) Stays “ahead of the helicopter” 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 (Multi-crew).

### **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.

## **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 candidate and, through identification of the Flight Training Unit, the performance of the Chief Flight Instructor who is responsible for the training at 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 *Privacy 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 may 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 helicopter in accordance with the owner/operator's checklists, the Standard Operating Procedures (SOP) if relevant, the manufacturer's specifications, limitations and recommended configurations in the POH/RFM or other approved data based on the certification standard of the helicopter used for the test.

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.

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.



## **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 or 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 (SOP); or
- repeated improper error management or uncorrected and unrecognized threats, which risk putting the aircraft in an undesired state; or
- repeated major errors or the non-performance of certain criteria prescribed in the *Performance Criteria*\* that are essential to achieving the *Aim*\* of a test sequence/item.

\* defined in the *Flight Test Guide*.

## **DEVIATIONS**

**Deviation:** means a variance in precision with respect to a specified tolerance published for a manoeuvre within a test item or sequence, which is a result of pilot error or faulty handling of the aircraft.

### **Minor Deviation**

A deviation that does not exceed a specified tolerance.

### **Major Deviation**

A deviation that exceeds a specified tolerance 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 tolerance limits; or
- more than doubling the specified value of a tolerance limit; or
- not identifying and correcting major deviations.

## 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 ITEMS**

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### **AIRMANSHIP**

The candidate's airmanship will be assessed along with the performance criteria in determining the mark awarded for each item. During the entire flight the helicopter shall be operated in accordance with the operating limitations as stated in CAR 602.07. Other airmanship elements such as lookout, consideration for other aircraft on the ground and in the air and choice of departure or arrival path will be important parts of each item assessed. The candidate will be expected to demonstrate good airmanship and complete accurate checks during the flight test.

#### **1. PRE-FLIGHT**

##### **1. A. Obtaining Weather Information (Ground item)**

###### *Aim*

To determine the candidate's ability to retrieve and interpret the aviation weather information necessary for the safe conduct of a flight in accordance with the Instrument Flight Rules.

###### *Description*

The candidate will obtain and interpret aviation weather information for the route of flight assigned for the flight test.

###### *Performance Criteria*

Assessment will be based on the candidate's ability to retrieve and interpret items such as:

- a) weather reports and forecasts (METAR/TAF);
- b) graphic area forecast (GFA);
- c) surface analysis chart;
- d) significant weather prognostic charts (SIGWX);
- e) winds and temperatures aloft (FD);
- f) icing, turbulence and freezing level charts;
- g) SIGMETs;
- h) PIREPS; and
- i) NOTAMs.

##### **1. B. Flight Planning (Ground Item)**

###### *Aim*

To determine the candidate's ability to plan a flight utilizing the weather information in accordance with Instrument Flight Rules (IFR), performance charts and the weight and balance calculations.

### *Description*

The candidate will plan a flight to an assigned destination. The candidate will prepare a flight log, weight and balance calculations and an IFR flight plan.

### *Performance Criteria*

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

- a) select an appropriate route, altitude and alternate;
- b) locate and apply information essential to the flight;
- c) utilize the information retrieved in 1.A. for the flight planning;
- d) describe the effects of meteorological conditions upon performance characteristics and correctly apply these factors to a specific chart, table, graph or other performance data;
- e) demonstrate acceptable knowledge of procedures and planning while applying operational factors affecting helicopter performance;
- f) calculate the estimated time enroute and total fuel requirement based on factors such as power settings, operating altitude or flight level, wind and fuel reserve requirements;
- g) determine that the required performance for the planned flight is within the helicopter's capability and operating limitations;
- h) make a competent "GO/NO-GO" decision based on available information for the planned flight; and
- i) complete a flight plan in a manner that reflects the conditions of the proposed flight.

## **1. C. Cockpit Checks**

### *Aim*

To determine the candidate's ability to complete the cockpit checks necessary for a safe flight under Instrument Flight Rules (IFR) or simulated Instrument Flight Rules (IFR), including all starting and shut down procedures for the intended Flight.

### *Description*

The candidate will complete all checks necessary for an IFR flight in accordance with published SOPs, owner's checklists or the POH/RFM.

### *Performance Criteria*

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

- a) determine that the helicopter is properly equipped and serviceable for instrument flight or simulated instrument flight;
- b) verify that publications and databases to be used are current;
- c) perform the pre-flight instrument, avionics and navigation equipment cockpit checks;
- d) take appropriate action with respect to unsatisfactory conditions identified; and

- e) complete checks applicable to anti-icing, de-icing, or ice warning systems.

## **2. IFR OPERATIONAL KNOWLEDGE (GROUND ITEM)**

**Note:** Acceptable performance on this item is considered mandatory during the ground portion of the flight test, but it will also be evaluated during the air portion.

### *Aim*

To determine that the candidate has sufficient knowledge of IFR procedures to safely conduct a flight under Instrument Flight Rules.

### *Description*

The candidate will demonstrate a practical knowledge of IFR procedures by responding to a brief series of oral questions posed by the examiner that pertain to the planned flight and other questions pertinent to IFR flight in other areas.

### *Performance Criteria*

Assessment will be based on the candidate's ability to demonstrate, prior to departure, sufficient practical knowledge of IFR procedures to ensure a safe flight, such as:

- a) take-off weather limits;
- b) departure procedures;
- c) missed approach and departure procedures - climb gradient;
- d) take-off minima – weather below landing minima;
- e) alternate weather minima;
- f) enroute procedures;
- g) approach ban;
- h) landing minima;
- i) RVOP and LVOP;
- j) icing encounters;
- k) approach charts; and
- l) altitude correction chart (cold temperature correction).

## **3. AIR TRAFFIC CONTROL CLEARANCES**

### *Aim*

To determine the candidate's ability to obtain, read back and comply with clearances.

### *Description*

Based on actual or simulated clearances, the candidate will obtain, read back and comply with clearances throughout the flight.

### *Performance Criteria*

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

- a) establish two-way communications with the appropriate controlling agency/ radio station, using proper phraseology;
- b) obtain and read back clearances received; and
- c) when necessary, request clarification, verification, or change if unable to comply.

## **4. DEPARTURE**

### *Aim*

To determine the candidate's ability to safely depart in accordance with a clearance given by ATC or a simulated clearance given by the examiner.

### *Description*

The candidate will complete the departure procedures, including an instrument function check, and establish the helicopter on the enroute course, as cleared in accordance with the Instrument Flight Rules. The candidate will control the helicopter solely with reference to flight instruments once in flight and above 200 feet AAE, unless otherwise specified in a departure procedure.

### *Performance Criteria*

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

- a) select and use the appropriate communications frequencies;
- b) select and identify the navigation aids associated with the proposed departure phase;
- c) verify that course indications correspond to the intended navigational equipment;
- d) perform instrument function check;

**Note:** To avoid the shaded area of the Height Velocity Diagram, the function check of the vertical speed indicator and altimeter will be performed on the initial phase of the climb.

- e) safely taxi while respecting runway signs and avoiding a runway incursion;
- f) accomplish the applicable checklist items and perform recommended procedures;
- g) maintain proper helicopter control and flight within operating configurations and limitations;
- h) intercept, in a timely manner, all tracks, radials, and bearings appropriate to the procedure, route, or ATC clearances and instructions;
- i) adhere to departure and transition procedures or ATC instructions;
- j) maintain assigned headings ( $\pm 10$  degrees);
- k) maintain assigned tracks and bearings ( $\pm 10$  degrees); and
- l) climb to and maintain assigned altitudes ( $\pm 100$  feet).

## 5. ENROUTE

### *Aim*

To determine the candidate's ability to comply with enroute procedures in accordance with a clearance given by ATC or a simulated clearance given by the examiner.

### *Description*

The candidate will maintain the helicopter on the enroute course and comply with enroute procedures in accordance with the clearance and the Instrument Flight Rules. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) select and use the appropriate communications frequencies;
- b) select and identify the navigation aids associated with the proposed enroute phase;
- c) verify that course indications correspond to the intended navigational equipment;
- d) perform the helicopter checklist items relative to the phase of flight;
- e) intercept, in a timely manner, all tracks, radials, and bearings appropriate to the route or clearance;
- f) adhere to enroute procedures;
- g) maintain proper helicopter control and flight within operating configurations and limitations;
- h) maintain assigned headings ( $\pm 10$  degrees);
- i) maintain assigned tracks ( $\pm 10$  degrees); and
- j) maintain assigned altitudes ( $\pm 100$  feet).

## 6. ARRIVAL

### *Aim*

To determine the candidate's ability to comply with arrival procedures, in accordance with a clearance given by ATC or a simulated clearance given by the examiner.

### *Description*

The candidate will complete the arrival procedures, as cleared, in accordance with the clearance and the Instrument Flight Rules. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) select and use the appropriate communications frequencies;
- b) select and identify the navigation aids associated with the proposed arrival phase;

- c) perform the checklist items relative to the phase of flight;
- d) intercept, in a timely manner, all tracks, radials, and bearings appropriate to the procedure, route or clearance;
- e) adhere to the arrival procedures;
- f) maintain proper helicopter control and flight within recommended configurations and operational limitations;
- g) maintain assigned headings ( $\pm 10$  degrees);
- h) maintain assigned tracks and bearings ( $\pm 10$  degrees); and
- i) descend to and maintain assigned altitudes ( $\pm 100$  feet).

## 7. HOLDING

### *Aim*

To determine the candidate's ability to establish the helicopter in a holding pattern in accordance with a clearance given by ATC or a simulated clearance given by the examiner.

### *Description*

Based on a clearance given by ATC or a simulated clearance given by the examiner, the candidate will select a suitable entry procedure, enter and establish the helicopter in the holding pattern. The candidate will demonstrate adequate knowledge of holding endurance including, but not limited to, fuel on board, fuel available for holding and fuel required to the alternate destination.

### *Performance Criteria*

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

- a) recognize arrival at the holding fix and to initiate entry into the holding pattern;
- b) use a suitable entry procedure that assures manoeuvring within the protected airspace;
- c) report crossing the fix entering the hold and, if required by ATC, report established in the hold;
- d) use the proper timing criteria, where applicable; or
- e) comply with leg lengths when a DME distance is specified;
- f) anticipate and further assess the effect of wind and apply effective drift and timing correction techniques;
- g) maintain the designated track or course ( $\pm 10$  degrees) or within  $\frac{1}{2}$  scale deflection of the course deviation indicator, as applicable (Terminal Mode sensitivity if with GPS);
- h) maintain the declared airspeed ( $\pm 10$  knots);
- i) maintain assigned altitudes ( $\pm 100$  feet); and
- j) maintain proper helicopter control and flight within operating configurations and limitations.



- k) provide the examiner with a reasonably accurate estimate of the maximum holding time available based on the IFR flight plan and the fuel on board.

## 8. APPROACHES

The candidate will perform two (2) instrument approaches. Except where limited by the helicopter equipment or lack of approach facilities, these approaches will be done on different types of facilities at the same or another aerodrome. On an initial Instrument Rating flight test, a precision approach is mandatory. Approaches may be flown with vectors from ATC, where available, or by flying a full-procedure approach. At some point, during one of the approaches, an engine failure should be simulated, if conducted on a multi-engine helicopter.

If the helicopter has an approved IFR GPS installation, one of the approaches should be an RNAV(GNSS) approach.

**When aerodrome temperatures are 0°C or colder, altitude corrections will be applied to all minimum altitudes depicted on the approach chart used.** In spite of the fact that the CAP – General Pages state, “should add”, flight test candidates “**will add**” the altitude correction values.

The candidate is allowed only one (1) second attempt for Item 8 - Approaches. Where a major deviation has occurred during the approach **but safety has not been compromised**, the candidate may initiate a missed approach for **one** additional attempt at the approach.

Where safety has been compromised or unacceptable performance has been demonstrated, including but not limited to, descent below a published minimum descent altitude due to pilot error or poor technique, the approach will be evaluated as a “1” despite the initiation of a missed approach by the candidate.

## 8. VOR, LOC, LOC/BC OR NDB INSTRUMENT APPROACH

### *Aim*

To determine the candidate’s ability to safely fly a successful VOR, LOC, LOC/BC or NDB approach.

### *Description*

After transitioning to the approach facility or after receiving vectors from ATC or the examiner, the candidate will fly the approach depicted on the approach chart to the missed approach point or to a landing. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) establish two-way communications with ATC using the proper communications phraseology and techniques, as required for the phase of flight or approach segment;
- b) comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- c) select and comply with the VOR, LOC, LOC/BC or NDB instrument approach procedure to be performed;

- d) select, tune, identify, confirm and monitor the operational status of ground and helicopter navigation equipment to be used for the approach procedure;
- e) establish the appropriate configuration (power setting and airspeed) and vary appropriately considering turbulence, wind shear, microburst conditions or other meteorological and operating conditions;
- f) complete the helicopter check list items appropriate to the phase of flight or approach segment, including engine-out emergency checklist, as applicable;
- g) apply necessary adjustment to the published Minimum Descent Altitude (MDA), as required, because of NOTAMS, inoperative helicopter and/or ground navigation equipment or inoperative visual aids associated with the landing environment;
- h) prior to final approach course, maintain altitudes, as cleared or as declared, ( $\pm 100$  feet) and maintain headings ( $\pm 10$  degrees);
- i) on the intermediate and final segments of the final approach course:
  - i) maintain VOR, LOC, LOC/BC tracking within  $\frac{1}{2}$  scale deflection of the course deviation within 5 degrees of the specified track in the case of an NDB approach;
  - ii) fly the approach in a relatively stable manner without descending below the applicable minimum altitudes depicted on the approach chart (+as required/  $-0$  feet); and
  - iii) descend to and accurately maintain the Minimum Descent Altitude (MDA) and track to the Missed Approach Point (MAP) or to the recommended minimum visibility that would permit safe completion of the visual portion of the approach with a normal rate of descent and non excessive manoeuvring.
- j) maintain declared approach airspeeds ( $\pm 10$  knots); and
- k) initiate the missed approach procedure at the MAP, when the required visual references for the intended runway or heliport are not obtained.

## **8. ILS OR LPV INSTRUMENT APPROACH**

### *Aim*

To determine the candidate's ability to safely fly a successful ILS or LPV approach.

### *Description*

After transitioning to the approach facility or after receiving vectors from ATC or the examiner, the candidate will intercept the localizer and glide slope and descend to the decision height (DH) or decision altitude (DA) as specified on the approach chart. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) establish two-way communications with ATC using the proper communications phraseology and techniques, as required for the phase of flight or approach segment;
- b) comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;

- c) select and comply with the ILS or LPV instrument approach procedure to be performed;
- d) select, tune, identify and confirm the operational status of ground and helicopter navigation equipment to be used for the approach procedure;
- e) establish the appropriate configuration (power setting and airspeed) and vary appropriately considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions;
- f) complete the helicopter check list items appropriate to the phase of flight or approach segment, including engine-out emergency checklist, as applicable;
- g) apply necessary adjustment to the published DH or DA and visibility criteria, as required, because of NOTAMS, inoperative helicopter and/or ground navigation equipment or inoperative visual aids associated with the landing environment;
- h) prior to final approach course, maintain altitudes, as cleared or as declared, ( $\pm 100$  feet) and maintain headings ( $\pm 10$  degrees);
- i) on final approach course, allow no more than  $\frac{1}{2}$  scale deflection of the localizer or glideslope indications;
- j) during an LPV approach on the final course, ensure transition to approach active mode within 2 nm prior the Final Approach Waypoint (FAWP);
- k) during an LPV approach, take appropriate action in the event that a RAIM alert is displayed when the aircraft is established on the final approach course;
- l) maintain declared approach airspeeds within  $\pm 10$  knots; and
- m) maintain a stabilized descent to the DH/DA to permit completion of the visual portion of the approach; or
- n) initiate the missed approach procedure, upon reaching the DH/DA, when the required visual references for the intended runway or heliport are not obtained.

**Note 1:** LPV means Localizer Performance with Vertical Guidance for RNAV(GNSS) approaches with LPV minima. The aircraft must be equipped with WAAS Class 2 or 3 avionics meeting TSO C145a/C146a. Refer: AIM - COM 3.16.5.2.3.

**Note 2:** LPV approaches will be indicated on the flight test report by filling the ILS circle and inserting a note in the Remarks section of the report.

## 8. RNAV(GNSS) INSTRUMENT APPROACH

### *Aim*

To determine the candidate's ability to safely fly a successful RNAV (GNSS) approach.

### *Description*

The candidate will fly the approach tracks depicted on the approach chart and fly the approach to the MAWP or to a landing. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) establish two-way communications with ATC using the proper communications phraseology and techniques, as required for the phase of flight or approach segment;
- b) comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- c) select and comply with the RNAV instrument approach procedure to be performed;
- d) retrieve the RNAV approach from the database and verify the approach waypoints used for the approach procedure;
- e) establish the appropriate configuration and airspeed considering turbulence, wind shear, microburst conditions or other meteorological and operating conditions;
- f) complete the check list items appropriate to the phase of flight or approach segment, including engine-out approach and landing checklist, when applicable;
- g) apply necessary adjustment to the published Minimum Descent Altitude (MDA) and visibility criteria, as required, because of NOTAMS, inoperative helicopter equipment and/or inoperative visual aids associated with the landing environment;
- h) prior to final approach course, maintain altitudes, as cleared or as declared, ( $\pm 100$  feet) and maintain headings ( $\pm 10$  degrees);
- i) take appropriate action in the event that a RAIM alert is displayed when the helicopter is established on the final approach course;
- j) on the intermediate and final segments of the final approach course:
  - i) maintain GPS track bar within  $\frac{1}{2}$  scale deflection;
  - ii) fly the approach in a relatively stable manner without descending below the applicable minimum altitudes depicted on the approach chart (+as required/  $-0$  feet);
  - iii) confirm the approach mode is active within 2 nm prior to reaching the Final Approach Waypoint (FAWP) inbound; and
  - iv) descend to and accurately maintain the Minimum Descent Altitude (MDA) and track to the Missed Approach Waypoint (MAWP) or to the recommended minimum visibility that would permit safe completion of the visual portion of the approach with a normal rate of descent and non excessive manoeuvring.
- k) maintain the declared approach airspeeds within  $\pm 10$  knots; and
- l) maintain a stabilized descent to the MAWP to permit completion of the visual portion of the approach; or
- m) maintain a stabilized descent to the MAWP and initiate the missed approach procedure when the required visual references for the intended runway or heliport are not obtained.

## 9. MISSED APPROACH

### *Aim*

To determine the candidate's ability to safely carry out a missed approach, as published or as modified by ATC.

### *Description*

Following a VOR, LOC, LOC/BC, NDB, RNAV(GNSS), LPV or an ILS approach, the candidate will carry out a missed approach. The candidate will control the helicopter solely with reference to flight instruments.

### *Performance Criteria*

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

- a) promptly initiate the missed approach at the MAP/MAWP or the DH/DA;
- b) report beginning the missed approach procedure;
- c) comply with the published missed approach procedure or missed approach instructions from ATC;
- d) notify ATC (or the examiner) anytime there is an inability to comply with a clearance, restriction, or climb gradient;
- e) perform the check items appropriate to the go-around procedure;
- f) request another approach clearance, a clearance to an alternate airport or as directed by the examiner;
- g) maintain recommended airspeeds ( $\pm 10$  knots);
- h) maintain heading, track or bearing ( $\pm 10$  degrees); and
- i) climb to and maintain the published missed approach altitude, or as cleared by ATC or the examiner ( $\pm 100$  feet).

## **10. TRANSITION TO LANDING**

### *Aim*

To determine the candidate's ability to safely carry out a visual descent from the MDA or DH/DA and execute a landing.

### *Description*

The candidate will brief the examiner regarding the procedure to be used for the transition from the approach to the landing, particularly if the approach includes a tailwind component. In the case of a tailwind landing the briefing should include the proposed manner of compensating for the wind; or if a turn is planned for a landing into wind the proposed manner to achieve the landing. The briefing should be done prior to or during the approach. The candidate will then carry out a visual descent and landing from MDA or DH/DA as briefed and execute the appropriate transition to a normal landing.

### *Performance Criteria*

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

- a) execute a landing from the MDA or DH/DA as briefed, when the required visual references for the intended runway or landing pad are obtained;
- b) take into consideration weather factors such as turbulence, wind shear, wind, visibility and whiteout or brownout conditions;

- c) take action respecting NOTAMs, wake turbulence, runway surface or landing pad surface and other operational considerations;
- d) confirm the direction of traffic and adhere to all restrictions and instructions issued by ATC or the examiner; and
- e) where the clear intent is to complete a manoeuvring procedure for landing into wind after a down wind approach:
  - i) consider the manoeuvring capabilities of the helicopter;
  - ii) maintain visual reference in all times;
  - iii) demonstrate an awareness of the Height Velocity Diagram;
  - iv) avoid situations that may result in vortex ring state;
  - v) avoid situations that may result in settling-with-power and/or over-pitching; and
  - vi) arrive at a predetermined point at a normal hover height appropriate to the helicopter type.

## 11. EMERGENCY PROCEDURES

**Note 1:** The examiner will test the candidate on **three** simulated emergency procedures or system malfunctions.

**Note 2:** At least one simulated engine failure will be tested on a multi-engine helicopter; therefore 11A, 11B and 11C will be evaluated.

**Note 3:** Single-engine helicopter candidates will be evaluated on items 11B, 11C and 11D only.

### 11. A. Engine Failure

#### *Aim*

To determine the candidate's ability to safely maintain control of the helicopter and carry out the appropriate engine failure drill after an engine failure on a multi-engine helicopter during any phase of flight and complete a safe landing with one engine inoperative.

#### *Description*

A simulated engine failure of one engine will be conducted at a safe altitude and at safe indicated airspeeds. The candidate will identify the failed engine, complete the engine failure drill in accordance with the emergency checklist, and subsequently execute an approach during one of the Item 8 approaches to a safe landing with the power setting of one engine at flight idle. The candidate will control the helicopter solely with reference to flight instruments.

**Note:** It is permitted to use an OEI training mode switch or training module that can simulate single-engine, if it is functional.

#### *Performance Criteria*

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

- a) recognize an engine failure, as simulated by the examiner, or the need to shut down an engine in accordance with a scenario presented by the examiner;

- b) maintain control of the helicopter;
- c) adjust the power and airspeed;
- d) identify and verify the inoperative engine;
- e) establish the best one-engine inoperative airspeed;
- f) complete the prescribed emergency check list procedures as appropriate to the situation;
- g) establish and maintain, the recommended flight attitude and power setting for the best performance for all manoeuvring necessary for the phase of flight;
- h) maintain, where applicable, the specified altitude ( $\pm 100$  feet) and desired heading ( $\pm 10$  degrees); and
- i) monitor all functions of the operating engine, make necessary adjustments and adhere to the engine inoperative operating limitations for the helicopter; and
- j) notify ATS of the situation and intentions.

### **11. B. C. D. System Malfunctions and Emergency Procedures**

#### *Aim*

To determine the candidate's ability to complete recommended checks and procedures in accordance with SOP's and/or POH/RFM, or other applicable publications in the event of system malfunctions or other emergency situations.

#### *Description*

The candidate will complete the recommended checks and procedures based on simulated malfunctions or emergency scenarios pertaining to flight in IFR/IMC that are presented by the examiner.

These situations will be applicable to the helicopter type being used for the test. These items may be tested on the ground or in flight, however at least one item will be tested in flight. Nevertheless, the examiner will determine if helicopter performance, weather conditions and other factors permit the safe conduct of those items in flight.

**Note:** Items (f) and (g) will only be tested on the ground.

The following lists some of the system malfunctions that may be assessed:

- a) radio and navigation equipment;
- b) electrical system;
- c) hydraulic system;
- d) anti-ice and de-icing systems;
- e) fuel systems;
- f) system malfunction of a rotor control;
- g) system malfunction of a rotor drive shaft; and
- h) any other installed system required for IFR flight.

*Performance Criteria*

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

- a) promptly identify the malfunction;
- b) perform applicable memory items, as appropriate;
- c) promptly apply correct checks and procedures in accordance with the applicable emergency checklist, SOP's and /or POH/RFM, or other approved data;
- d) consider and apply any restrictions or limitations to the operation of a system(s) and apply appropriate procedures in order to continue the flight to a safe landing;
- e) develop a reasonable course of action for the remainder of the flight; and
- f) notify ATS of the situation and intentions.



## RECOMMENDATION FOR INITIAL FLIGHT TEST INSTRUMENT RATING – GROUP 4

Name of Candidate (Print)	Licence Number
Name of Flight Training Unit	Flight Training Unit ID
<b>Flight Experience</b> Total Instrument Time:  Instrument Ground Time:  Dual Instrument Flight Time with the holder of a Flight instructor Rating:  Instrument Time in Helicopter Category:	<b>Cross-Country Experience</b> Total Cross Country Flight Time – Hours (PIC):  Cross Country Time in Helicopter Category:  Dual Cross-Country IFR Flight - Miles:

I, the undersigned, certify that the above named candidate meets the minimum experience requirements of Section 421.14 of the *Personnel Licensing and Training Standards Respecting Flight Training*.

I consider the candidate to have reached a sufficient level of competency to complete the flight test required for the issuance of an Instrument Rating.

I further certify that I am qualified in accordance with Subsection 425.21(9) and the privileges of my pilot licence to make this recommendation.

Name of the Qualified Person Recommending the Test (Print)	Licence Number
Signature	Date
Flight Training Unit	

## RECOMMENDATION FOR PARTIAL FLIGHT TEST INSTRUMENT RATING – GROUP 4

Name of Candidate (Print)	Licence Number
Flight Training Unit  Flight Training Unit ID	Additional Flight Experience in Review Dual

I have conducted a review of the test item \_\_\_\_\_ 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 an Instrument Rating.

I further certify that I am qualified in accordance with Subsection 425.21(9) and the privileges of my pilot licence to make this recommendation.

Name of the Qualified Person Recommending the Test (Print)	Licence Number
Signature	Date
Flight Training Unit	