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(11/2007)

PILOT PROFICIENCY CHECK AND AIRCRAFT TYPE RATING

Flight Test Guide (Helicopter)

First Edition

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Canada

1st edition

Please direct your comments, orders and inquiries to:

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FOREWARD

This manual contains procedures and guidelines on the conduct of Pilot Proficiency Checks and Aircraft Type Ratings for the use of Civil Aviation Safety Inspector (CASI) and Approved Check Pilots (ACPs). Transport Canada issuing authorities approve ACPs and authorize them to conduct Pilot Proficiency Checks (PPC) and/or Line Checks. When performing their duties, ACPs act as delegates of the Minister according to subsection 4.3(1) of the *Aeronautics Act* and must follow the procedures specified in this manual.

Don Sherritt
Director of Standards

ACRONYMS

ACP – Approved Check Pilot.

RFM – Rotorcraft Flight Manual.

AOM – Aircraft Operating Manual

TC AIM – Transport Canada Aeronautical Information Manual

ATC – Air Traffic Control.

ATPL – Airline Transport Pilot License – (H) means Helicopter category.

F/A – Flight Attendant(s).

CAR – Canadian Aviation Regulation.

CASS – Commercial Air Service Standards

CBA – Commercial and Business Aviation

CSAOA – Canadian State Air Operators Association

CPL – Commercial Pilot License, (H) means helicopter category.

IAP – Instrument Approach Procedure.

MAP – Missed Approach Point.

OPI – Office of Primary Interest.

PLPM – Personnel Licensing Procedures Manual.

PPC – Pilot Proficiency Check

RMCBBA – Regional Manager Commercial & Business Aviation.

SID – Standard Instrument Departure.

SOP – Standard Operating Procedures

STAR – Standard Terminal Arrival.

TC – Transport Canada

DEFINITIONS

ACP means Approved Check Pilot.

ACP Monitor means the passive observance by a TRANSPORT CANADA Inspector of the manner in which an ACP conducts a flight check, assesses the results and processes the necessary documentation.

ACP Type A means an Approved Check Pilot (ACP) who is authorized to conduct Pilot Proficiency Checks (PPCs), and for CAR 705 operations, Line Checks.

ACP Type B means an ACP authorized to conduct Line Checks (CAR 705 only).

AOM (Aircraft Operating Manual) means a Pilot's Operating Manual, a Pilot's Operating Handbook, a Flight Crew Operating Manual or a manual established by the Air Operator for the use and guidance of flight crewmembers in the operations of its aircraft.

Airborne PPC means the airborne portion of a Pilot Proficiency Check (PPC) that is conducted after the candidate's successful completion of the simulator portion of the PPC.

Aircraft PPC means a Pilot Proficiency Check (PPC) that is conducted onboard an aircraft.

Authorized person means a person who is delegated the authority to issue type ratings and/or instrument ratings by signing the additional privileges section on the back of the candidate's license or by completing the Certification of an Additional Privilege Card (26-0267).

Certificate means an Air Operator Certificate.

Civil Aviation Safety Inspector (CASI) means a Transport Canada Inspector who is trained and authorized to conduct flight checks and monitors.

Conduct means to take an active role in all phases of a flight check, including pre flight preparation, the briefing, the control and pace of the various sequences, the assessment of the flight check candidate's performance, the debriefing, and completion of required documents including certification of the candidate's licenses.

Company Employee is a person that is employed on a part time basis, employed on a full time basis, or employed on contract on a seasonal basis.

Flight check means a PPC or a Line Check.

FTAE means Flight Training and Aviation Education database that is maintained by Transport Canada.

Issuing Authority means the Regional Manager, Commercial and Business Aviation, the Chief, National Operations or his/her assigned delegate, as appropriate.

Line check means a flight check conducted in accordance with paragraph 705.106(1)(d) of the Canadian Aviation Regulations (CARs) which is undertaken upon completion of line indoctrination and annually thereafter.

Operator means the holder of an Air Operator Certificate.

PPC means a PPC/IFT or a PPC/VFR

PPC/IFT means Pilot Proficiency Check conducted in accordance with the appropriate schedule specified in the Commercial Air Service Standards (CASS) and which is deemed to meet the requirements for an Instrument Rating.

PPC/VFR means Pilot Proficiency Check conducted in accordance with the appropriate schedule specified in the Commercial Air Service Standards (CASS) and which is deemed to meet the requirement for VFR operations only.

POI means a Transport Canada Principal Operations Inspector for a Part VII operator.

Professional suitability means a demonstrated willingness to work cooperatively with Transport Canada to uphold the principles of aviation safety.

Qualified person in the case of a simulator means;

a pilot who holds a valid PPC (or foreign equivalent) on the same type of aircraft for which the other candidate is being checked on,

a person who has been recommended for a flight check on that aircraft type, or

a qualified training pilot on the same type of aircraft for which the candidate is being checked on, and that person is acceptable to both the operator and the PPC candidate.

Safety Pilot means, in the case of a two crew aircraft, a training pilot or a pilot who holds a valid PPC on the same type of aircraft for which the candidate is being checked on.

Scripted PPC means a document that governs the events presented to candidates during a PPC that is conducted in a simulator. The script provides a detailed plan for the execution of mandatory events.

Simulator PPC means a PPC conducted in a full-flight simulator (FFS)

SOPs means Standard Operating Procedures established by an Air Operator, which enable the crewmembers to operate the aircraft within the limitations specified in the Aircraft Flight Manual, Aircraft Operating Manual, and/or Company Operations Manual.

Training Pilot means a pilot who meets the requirements of the applicable CAR Standard and for the purpose of line indoctrination, means a Training Captain.

Upgrade training means the training undertaken by a first officer to qualify for aircraft captain.

Vital action means an action that must be taken by flight crew to alleviate a situation that could jeopardize safety of flight. The action will be taken in a timely manner consistent with the AOM or SOPs as appropriate.

GENERAL

INTRODUCTION

This Pilot Proficiency Check (PPC) and Type Rating Helicopter Flight Test Guide is published by Transport Canada Certification and Operational Standards to establish the standards for PPC's and Helicopter Type Ratings. Transport Canada Inspectors and Approved Check Pilots (ACPs) will conduct PPCs in compliance with these standards. Air Operators, Training Pilots and candidates should find these standards helpful in preparation for the PPC.

This Flight Test Guide is available from <http://www.tc.gc.ca/>

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ASSESSMENT OF PPC PERFORMANCE

This PPC and Type Rating Flight Test Guide – Helicopter comprises exercises for; the initial issuance or renewal of a PPC, the initial issuance or renewal of an instrument rating, and the addition of an Helicopter type rating to a licence. Each exercise has an aim, a description and performance criteria that list the mandatory elements an ACP must assess. The aim includes what the candidate must accomplish; the description outlines the conditions under which to perform the exercise (in accordance with the appropriate PPC schedules in Canadian Aviation Regulations Part VII), and the performance criteria outline the acceptable standards of performance that the candidate must demonstrate. These criteria assume the operation of the helicopter will be in accordance with; the manufacturer's specifications, recommended speeds, and configurations in the Pilot's Operating Handbook/Aircraft Flight Manual (POH/RFM) or other approved data. Where variances exist between the air operator's published approved Standard Operating Procedures (SOP) and the manufacturer's recommendations, the candidate should follow the SOP and be able to explain the logic for significant variances.

The ACP will conduct flight checks under normal conditions whenever possible and will take into consideration unavoidable deviations from the published criteria due to weather, traffic or other situations beyond the control of the candidate. The ACP will evaluate the candidate on the use of an appropriate checklist related to the specific exercise. Where the ACP deems the use of the checklist, while accomplishing an exercise is unsafe or impractical the candidate may review of the checklist after the elements are complete.

ADMISSION TO THE PPC – INITIAL/RENEWAL

For a pilot proficiency check, the candidate will present;

- a. photo identification,
- b. a valid Pilot Licence and Medical Certificate,
- c. if an initial type and/or initial instrument rating is involved, the application for endorsement forms with it's associated experience, written examination requirements (INRAT, IATRA, HARON/HAMRA) including a written recommendation from a qualified person,
- d. training files as applicable,
- e. a written recommendation in the training file for all PPCs dated within 30 days prior to the Flight Check. In the case of a re-check, the person who conducted the additional training will sign the letter of recommendation, and
- f. aircraft documentation, where applicable (i.e. Certificate of Registration, Certificate of Airworthiness, Journey Log Book etc.).

Except where company procedures are established and accepted by Transport Canada, an ACP will not conduct a PPC if licensing and/or training documents are not available, are not valid, or if the company fails to provide all relevant training to the candidate as specified in the Operator's approved training program. Relevant training is initial or recurrent training required for the helicopter type and type of operation, including ground training, examinations, and flight training but **excludes**;

- a. surface contamination (seasonal),
- b. dangerous goods,
- c. survival,
- d. helicopter servicing and handling, and
- e. elementary work.

Training must be documented and certified and include a recommendation for the candidate to undergo the PPC. This procedure also applies to a re-ride following a failure. A sample "Letter of Recommendation" is at the back of this guide.

AIRCRAFT/SIMULATOR AND EQUIPMENT REQUIREMENTS

Except as otherwise noted, helicopter used for Flight Checks will have a valid and current Canadian or Foreign Flight Authority in accordance with CAR 507 and meet the requirements of CAR 605.06 – *Aircraft Equipment Standards* and Serviceability. All required equipment must be serviceable and the maintenance requirements current;

A simulator must have approved seats for all observers. Observer seats will be secured to the floor of the flight simulator fitted with positive restraint devices and be of sufficient integrity to safely restrain the occupant during any known or predicted motion system excursion. If the simulator has unserviceabilities, the ACP will refer to the Simulator Component Inoperative Guide or the Rotorcraft Simulator Manual to ascertain if the Flight Check can proceed with the unserviceabilities. Where there is insufficient guidance, the ACP should use their experience and judgment in making the determination to continue. The CARs, aircraft Minimum Equipment List (MEL) and AOM/RFM are useful tools to make the determination.

FLIGHT CREW CONCEPT

ACPs conducting PPC/IFR or PPC/VFR in a multi-crew helicopter will evaluate the flight crew under the crew concept and not on an individual basis. Under extenuating circumstances such as the conduct of a PPC at a contracted flight training organization and using a qualified person with a foreign license, ACPs may exercise discretion and conduct a PPC on an individual pilot versus the entire flight crew.

A PPC Flight Check is always a jeopardy ride for the individuals involved. Often, a pilot will participate in a PPC ride, acting as a co-pilot, when his PPC is not due. When a pilot that is filling in for a PPC ride commits an error that rates as a "1," he loses his PPC and perhaps his IFR. The ACP is to take action as appropriate including suspending the pilot's PPC and if required his IFR privileges.

A "1" assessed to the Pilot Flying (PF) due to inappropriate Pilot Not Flying (PNF) action may also result in a "1" for the PNF. In such a case, the PPCs of both candidates are failures. A candidate, who fails a PPC Flight Check under the crew concept will require retraining before attempting a re-check and may not act as a crewmember for another candidate until recommended for a re-check.

When attempting an "upgrade to Captain" PPC, candidates who fail for whatever reason demonstrate to the Minister that they do not meet a required standard. As such, they may not continue to fly the aircraft in question regardless of the position they are to occupy until they complete training and pass another PPC.

SINGLE PILOT IFR REQUIREMENTS

The standard for the operation of a helicopter in IFR flight with passengers on board without a second-in-command is:

- a. the helicopter is multi-engine and certified in the flight manual for single-pilot IFR operation;
- b. the pilot will have at least 1,000 hours helicopter flight time, which will include 100 hours pilot-in-command on multi-engine helicopters. In addition, the pilot will have 50 hours of simulated or actual flight in IMC, and a total of 50 hours flight time on the helicopter type;

The PPC will be conducted in the helicopter type or in an approved synthetic flight training device for the type and include:

- a. knowledge of the auto-pilot operations and limitations;
- b. performance of normal and emergency procedures without assistance; and
- c. passenger briefing with respect to emergency evacuation, and
- d. demonstration of the use of the auto-pilot during appropriate phases of flight;

PILOT NOT FLYING DUTIES

A strict adherence to procedures associated with each crew position is essential. To check the proper division of duties between the PF and the PNF requires observation during normal and abnormal procedures. ACPs must ensure satisfactory compliance with PNF duties as detailed in the AOM and company SOPs.

Normally an error in PNF duties will be observed during such things as FMS/RNAV programming, checklist procedures or general cockpit duties specified in company SOPs.

Each pilot will demonstrate PNF duties sufficient to determine compliance with and knowledge of helicopter procedures and company SOPs including normal and abnormal procedures. Flight crew may demonstrate PNF duties from a seat position that they do not normally occupy as in the case for PPCs with two Captains or two F/Os. In this situation, the pilots must receive PNF training before the PPC in the seat they are to occupy for the PPC.

THE PPC

A PPC enables the candidate to demonstrate the knowledge and the skill with respect to;

1. the helicopter, its systems and components,
2. proper control of airspeed, direction, altitude, attitude and configuration of the helicopter, in accordance with normal, abnormal and emergency procedures and limitations set out in the helicopter operating manual (where applicable), the helicopter flight manual, the air operator's Company Operations Manual, the air operator's standard operating procedures, the check list, and any other information relating to the operation of the helicopter type,
3. departure, enroute and arrival instrument procedures (if applicable), and
4. adherence to approved procedures.

A pilot will fly a captain PPC in the seat normally occupied by the pilot-in-command and a F/O PPC in the seat normally occupied by the second-in-command. The examiner will determine whether a person has demonstrated the knowledge and the skill in accordance with adherence to approved procedures, and qualities of airmanship in selecting a course of action.

A PPC must include a demonstration of instrument flight (IF) proficiency if the candidate possesses a valid Instrument Rating; and the candidate conducts commercial IFR operations on the PPC helicopter. In accordance with Part IV of the CAR and Policy Letter 116, when a pilot successfully completes the PPC, the pilot successfully meets the requirements for the renewal of the applicable instrument rating. Where an Air Operator's Certificate authorizes single-engine operation in IFR flight, the pilot proficiency check must include all items of the appropriate schedule, which are relevant to single-engine helicopters. Whenever practicable, PPC's requiring an 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 PPC more valid.

ACPs may only conduct PPC's when weather conditions do not present a hazard to the operation of the aircraft, the helicopter 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 ACP to make the final decision as to whether or not to conduct all or any portion of the PPC.

The ACP will assess the candidate's airmanship along with other factors in determining the mark awarded for each item. This will include items such as looking out for other aircraft, the use of checklists, consideration for other aircraft on the ground and in the air, choice of run-up areas and choice of runways. The candidate must demonstrate good airmanship and complete accurate checks.

Some operators need to operate the same helicopter in both single crew and multi-crew operation. In the case where a pilot is required to demonstrate single pilot proficiency in addition to multi crew proficiency, the candidate will have to complete a multi crew PPC in accordance with the helicopter PPC schedule and as a minimum will demonstrate proficiency in completing the following sequences without assistance from the co-pilot;

- a. a normal take off in accordance with the RFM establishing simulated IFR at or before reaching 200 feet above airport elevation,
- b. a simulated engine failure after take-off, as per the helicopter PPC schedule,
- c. one instrument approach performed in accordance with procedures and limits published in the CAP or in the equivalent foreign publication, and
- d. one landing and manoeuvring to that landing with a simulated failure of 50 percent of available engines.

Note: Combining any of the sequences above is acceptable.

AIRBORNE PPC (FLIGHT CHECK)

Where a 704 PPC is conducted following initial training in a level A or B training program, the following flight checking is required within 30 days after the PPC in a synthetic flight training device, and may be performed concurrently with the flight training requirements on the helicopter type in the applicable training program:

The following will be demonstrated:

1. interior and exterior helicopter pre-flight checks;
2. ground handling for pilots-in-command;
3. normal take-off, visual circuit where possible, and landing;
4. a simulated engine inoperative approach and landing;
5. simulated engine failure procedures during take-off and missed approach to be conducted at a safe altitude and at no less than V_y or V_{mini} airspeed;
6. no electronic glide slope approach and landing; and

REPEATED PPC ITEM

Except for the following, do not repeat a PPC item or manoeuvre:

1. **Discontinuance:** Discontinuance of a manoeuvre for valid safety reasons; i.e., a go-around or other procedure necessary to modify the originally planned manoeuvre.
2. **Collision Avoidance:** ACP intervention on the flight controls to avoid another aircraft, which the candidate could not have seen due to position or other factors.
3. **Misunderstood Requests:** Legitimate instances when candidates did not understand an ACP's request to perform a specific manoeuvre. A candidate's failure to understand the nature of a specified manoeuvre does not justify repeating an item or manoeuvre.
4. **Other Factors:** Any condition under which the ACP 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 are in the interest of fairness and do not mean that instruction, practice, is permitted during the PPC evaluation process. The repeating of an item or manoeuvre that was unacceptably demonstrated is discussed later in this chapter.

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 is often a result of 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 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 (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

CREW RESOURCE MANAGEMENT (CRM)

CRM “refers to the effective use of all available resources; human resources, hardware, and information.” Human resources “include all other groups routinely working with the cockpit crew (or pilot) who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers.” CRM is not a single task. CRM is a set of competencies, which must be evident in all exercises in this flight test guide as applied to the single pilot or the multi-crew operation. CRM competencies, grouped into three clusters of observable behaviour, are:

1. Communications Processes and Decisions

- a. Briefing
- b. Inquiry/Advocacy/Assertiveness
- c. Self-Critique
- d. Communication with available personnel resources
- e. Decision making

2. Building and Maintenance of a Flight Team

- a. Leadership/Followership
- b. Interpersonal Relationships

3. Workload Management and Situational Awareness

- a. Preparation/Planning
- b. Vigilance
- c. Workload Distribution
- d. Distraction Avoidance
- e. Wake Turbulence Avoidance

CRM deficiencies usually contribute to a “below standard” performance of an exercise. Therefore, the competencies provide an extremely valuable vocabulary for debriefing. CRM evaluations are still largely subjective. Certain CRM competencies are well suited to objective evaluation. These are the CRM-related practices set forth in the aircraft manufacturer’s or the operator’s approved operating or training manuals as explicit, required procedures. Those procedures may be associated with one or more exercise in this flight test guide. Examples include required briefings, radio calls, and instrument approach callouts. The examiner simply observes that the individual complies (or fails to comply) with requirements.

How the Examiner Applies CRM

Examiners are required to exercise proper CRM competencies in conducting tests, as well as expecting the same from candidates. Pass/Fail judgments based solely on CRM issues must be carefully chosen since they may be entirely subjective. Those Pass/Fail judgments that are not subjective apply to CRM-related procedures in Transport Canada approved operations manuals that must be accomplished, such as briefings to other crewmembers. In such cases, the operator (or the aircraft manufacturer) specifies what should be briefed and when the briefings should occur. The examiner may judge objectively whether the briefing requirement was or was not met. In those cases where the operator (or aircraft manufacturer) has not specified a briefing, the examiner will require the applicant to brief the appropriate items from the following note. The examiner may then judge objectively whether the briefing requirement was or was not met.

Note: The majority of aviation accidents and incidents are due to resource management failures by the pilot/crew; fewer are due to technical failures. Each candidate will give a crew briefing before each takeoff/departure and approach/landing. If the operator or aircraft manufacturer has not specified a briefing, the briefing will cover the appropriate items, such as runway, SID/DP/STAR/FMSP/IAP, power settings, speeds, abnormals or emergency prior to or after reaching decision speed (i.e., V1 or VMC), emergency return intentions, missed approach procedures, FAF, altitude at FAF, initial rate of descent, DA/DH/MDA, time to missed approach, and what is expected of the other crewmembers during the takeoff/DP and approach/landing. If the first takeoff/departure and approach/landing briefings are satisfactory, the examiner may allow the applicant to brief only the changes, during the remainder of the flight.

AUTOMATION AND TECHNOLOGY

Electronic flight instruments, navigation instruments, automated flight management and guidance systems and electronic aircraft monitoring systems represent a significant level of automation in cockpit design. Because of these features, training and checking programs must address each element of automation represented in the applicable aircraft. The ACP must also address the complete integration and relationship of these systems to helicopter operation.

We define situational awareness for the purpose of flight check assessment as “the crew’s knowledge and understanding of the present and future status of the aircraft and its systems with regard to its horizontal and vertical position relative to the required position for each phase of flight.” The ACP must observe the crew’s management of automation and its effect on horizontal and vertical situational awareness during flight checks. Flight path, terrain, system status, aircraft configuration and energy awareness are all important aspects of situation awareness required for the operation of modern aircraft.

All modern passenger aircraft have different levels of automation. The ACP will assess each pilot on their knowledge and ability to effectively use and interpret the aircraft checklist and alerting equipment, flight management and navigation equipment, auto flight system and the flight mode annunciation.

ELECTRONIC AIRCRAFT CHECKLIST AND ALERTING SYSTEM

Aircraft manufacturers have developed different levels of automation for crew alerting devices. Candidates must demonstrate a satisfactory knowledge of aircraft checklist and alerting systems appropriate to the aircraft type. Adherence to company SOPs and demonstration of knowledge, ability and discipline during normal and abnormal procedures will confirm the crew's effective use of the electronic checklist and alerting system.

FMS/RNAV PROGRAMMING

Each crewmember must demonstrate satisfactory knowledge of FMS/RNAV procedures. ACPs must ensure the crew is competent to operate these systems in all phases of flight as appropriate to the aircraft type. On initial proficiency checks each pilot will demonstrate FMS/RNAV programming for departure, enroute, arrival, approach, alternate, change of destination and holding procedures. In addition, each crew will demonstrate programming for lateral offset and altitude crossing restriction manoeuvres. During recurrent proficiency checks, crews must demonstrate satisfactory knowledge of sufficient FMS/RNAV procedures to complete the flight check scenario.

AUTO FLIGHT SYSTEMS/FLIGHT MODE AWARENESS

Crew co-ordination associated with flight mode indications is essential to safe operations for all highly automated aircraft. Reference to the flight mode annunciation as well as a thorough understanding of all status, armed and engagement indications is essential to the successful operation of the auto-flight system. The ACP needs to monitor the sometimes-subtle mode changes that can occur with regard to flight path management.

ACPs must ensure flight crews have a sound knowledge of mode awareness and mode transitions as they occur, whether initiated by the flight crew or by a system response to design logic. Crews must satisfactorily demonstrate an understanding of the means to transition to and from the various levels of automation and the conditions or situations in which it is appropriate to do so.

PARTIAL AND RETEST

Except for a situation that results in a simulator crash or as in the case of an airborne PPC, a situation that if allowed to continue could result in loss of control of the aircraft, the ACP may allow a candidate to repeat a failed item if no other sequence in the PPC is rated a "2" or "1." The ACP will apply the following;

1. without commenting on the error committed, allow the candidate to complete the PPC to ascertain that there are no other weaknesses in piloting skills. If another sequence is rated "(2)" or "(1)" the ACP will stop the check ride, the original mark of "(1)" will apply and necessary administrative action will be required. If no other weakness is noted then at the end of the flight test;
2. without specifying what the error was, advise the candidate that a partial retest is required;
3. immediately repeat the sequence in question;
4. where the pilot achieves "(3)" or better on the repeated sequence, assign a mark of "(2)" for the sequence. The flight will be deemed a "partial and retest" which will not be recorded as a failure against the candidate's record. Annotate the flight test report and debrief accordingly; and
5. where the pilot does not achieve "(3)" or better the original mark of "(1)" will apply and require administrative action.
6. Annotate the flight test report and de-bridge accordingly.

If it is not possible to repeat the sequence due to time constraints or other reasons, the ACP will apply the original mark of "(1)" and assess the PPC as a "fail."

FAILURE OF A PPC

When an ACP assesses at least one sequence or item as “(1)”, the flight check will receive a General Assessment of “Failed”. A PPC that has five or more sequences or items assessed as “(2)” will also receive a General Assessment of “Failed”. A PPC that has less than 5 sequences or items assessed as “(2)” and the remainder of sequences rated as “(3)” or “(4)” will receive a General Assessment of “Pass.”

During a PPC, an assessment of “(1)” for an Instrument Rating related sequence constitutes a failure of the PPC and the Instrument Rating. The ACP will;

1. assess the PPC and IFR as "failed" at the bottom of the Flight Test Report Pilot Proficiency Check (form 26-0279),
2. initiate the suspension process by drawing a line through the rating privileges on the holder's licence (both English and French),
3. write “Instrument Rating Suspended” followed by his signature and the date, and
4. contact the Regional Office no later than the next working day to report the failure.

Following notification of a failure, the issuing authority will send to the candidates a formal notice of suspension.

During a PPC, an assessment of “(1)” for a PPC related flight sequence that is not related what so ever to an instrument flight sequence constitutes a failure of the PPC only. In this case, administrative action is limited to the suspension of the existing PPC and the Instrument Rating remains valid. In order to return to any flight duties on the line in the subject aircraft, the pilot must successfully complete another PPC.

Once an ACP decides that a pilot has failed during the course of a PPC, he will terminate the flight check. This need not be immediate as it is possible for the ACP to make the unsatisfactory evaluation of a sequence or item based on further observation.

For the admission to a re-test following the failure of a PPC, the candidate will be receive additional training as required and meet the requirements set out in “Admission to a PPC – Initial/Renewal”.

REQUEST FOR REVIEW OF AN ACP’S ASSESSMENT OR PERFORMANCE

When a candidate is not satisfied with an ACP's assessment, he may request a re-test. After due consideration of the individual case, the Transport Canada Regional Office responsible for that ACP may authorize a CASI or alternate ACP to conduct a re-test without prejudice to the individual's record. When TC authorises a re-test, the candidate will; complete a new application (where applicable), TC will compile a flight check file and the candidate will undergo a full PPC. The new Flight Check report will determine the candidate's qualification. When TC maintains the ACP's assessment after review, the document holder has the right to request a review of the Minister's decisions, to suspend, cancel, or refuse to issue or renew a CAD, by the Transportation Appeal Tribunal of Canada (TATC). The TATC is at:

Transportation Appeal Tribunal of Canada
333 Laurier Avenue West
12th Floor, Room 1201
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When a candidate is not satisfied with the ACP's performance, he may forward a complaint to the Transport Canada Regional Office responsible for the ACP. The regional office will review the nature of the complaint and determine if remedial action is required to address any reported deficiency. Should the candidate not be satisfied with the results of the procedure, he or she may choose to follow the procedure outlined in Civil Aviation Issues Reporting System (CAIRS). The document is available at <http://www.tc.gc.ca/CivilAviation/QualityAssurance/QA/cairs.htm>

INSTRUMENT RATING GROUPS

The group of instrument rating issued must correspond to the aircraft or simulator type used for the instrument rating flight test. Subject to the privileges of the candidate's licence, an instrument rating is valid for:

- Group 1:** all aeroplanes; when the aircraft used for the flight test is in a multi-engine aeroplane other than a center-thrust multi-engine aeroplane;
- Group 2:** all center-thrust multi-engine and single engine aeroplanes; when the aircraft used for the flight test is a center-thrust multi-engine aeroplane;
- Group 3:** all single engine aeroplanes when the aircraft used for the flight test is a single engine aeroplane; or
- Group 4:** all helicopters when the aircraft used for the flight test is a helicopter.

PPC RESULTS

The Privacy Act protects the privacy of individuals with respect to personal information about themselves held by a government institution. A PPC measures the performance of the candidate for the flight test, the examiner conducting the flight test, the training pilot who recommended the candidate and, through identification of the Air Operator responsible for the training, the performance of the Chief Pilot of that operator. The PPC flight test report identifies all of these individuals.

Section 8(2)(a) of the Act, allows personal information disclosure... "for the purpose for which the information was obtained or compiled by the institution or for a use consistent with that purpose". TC gathers flight test information to maintain the safety of aviation in Canada. The specific purposes are to measure whether the candidate meets the minimum skill standard for the PPC or rating, whether the recommending training pilot is performing competently as an instructor, whether the examiner is conducting the PPC in accordance with the standards, and whether the Air Operator is performing in accordance with the general conditions of the operator certificate.

In accordance with 8(2)(a) of the Privacy Act, the candidate for the PPC may receive a copy of the flight test report and the examiner who conducted the check may retain a copy. The training pilot who recommended the candidate for the flight test and the chief pilot responsible for the quality of training for the Air Operator may also receive a copy. Except as provided by the Privacy Act, Transport Canada will not disclose specific information about the results of a flight test to anyone but the individuals named on the flight test report.

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. Remarks to support mark awards of 1 or 2 must link to a safety issue, a qualification standard (performance criteria), or an approved technique or procedure.

4	Above Standard	Performance remains well within the qualification standards and flight management skills are excellent.	<ul style="list-style-type: none"> • Performance is ideal under existing conditions. • Aircraft handling is smooth and precise (i.e. well within limits). • Technical skills and knowledge exceed (i.e. consistently meet) the required level of competency. • Behavior indicates continuous and highly accurate situational awareness. • Flight management skills are excellent. • Safety of flight is assured. Risk is well mitigated.
3	Standard	Minor deviations occur from the qualification standards and performance remains within prescribed limits.	<ul style="list-style-type: none"> • Performance meets the recognized standard yet may include deviations that do not detract from the overall performance. • Aircraft handling is positive and within specified limits. • Technical skills and knowledge meet the required level of competency. • Behavior indicates that situational awareness is maintained. • Flight management skills are effective. • Safety of flight is maintained. Risk is acceptably mitigated.
2	Basic Standard	Major deviations from the qualification standards occur, which may include momentary excursions beyond prescribed limits but these are recognized and corrected in a timely manner.	<ul style="list-style-type: none"> • Performance includes deviations that detract from the overall performance, but are recognized and corrected within an acceptable time frame. • Aircraft handling is performed with limited proficiency and/or includes momentary deviations from specified limits. • Technical skills and knowledge reveal limited technical proficiency and/or depth of knowledge. • Behavior indicates lapses in situational awareness that are identified and corrected by the pilot/crew. • Flight management skills are effective but slightly below standard. Where applicable, some items are only addressed when challenged or prompted by other crewmembers. • Safety of flight is not compromised. Risk is poorly mitigated.
1	Below Standard	Unacceptable deviations from the qualification standards occur, which may include excursions beyond prescribed limits that are not recognized or corrected in a timely manner.	<ul style="list-style-type: none"> • Performance includes deviations that adversely affect the overall performance, are repeated, have excessive amplitude, or for which recognition and correction are excessively slow or nonexistent, or the aim of the task was not achieved. • Aircraft handling is rough or includes uncorrected or excessive deviations from specified limits. • Technical skills and knowledge reveal unacceptable levels of technical proficiency and/or depth of knowledge. • Behavior indicates lapses in situational awareness that are not identified or corrected by the pilot/crew. • Flight management skills are ineffective, unless continuously challenged or prompted by other crewmembers. • Safety of flight is compromised. Risk is unacceptably mitigated.

The following six elements are evaluated with the 4-point scale:

Performance

Aircraft Handling

Technical Skills and Knowledge

Situational Awareness

Flight Management Skills

Safety of Flight

Performance:

Overall error assessment

- a. no errors, or
- b. magnitude, significance, or consequence of errors
- c. risk of such errors during critical phases of flight

Recognition of errors

- a. recognized
- b. unrecognized

Error management

- a. promptness or delay correcting errors
- b. not corrected

Aircraft handling:

Quality of handling

- a. smoothness and coordination of controls
- b. control input appropriate to the flight situation
- c. airmanship

Accuracy

- a. use of approved technique or procedure
- b. performance relative to specified tolerances
- c. action taken when deviations occur
- d. magnitude of deviations

Technical skills and knowledge:

General

- a. practical use and understanding of aircraft systems and automation, data, charts, weather and physiological factors
- b. knowing what to do, how to do it and understanding why

Expected level of competency

- a. appropriate to the requirements of the qualification sought
- b. competency that would get the job done safely and efficiently
- c. above average, average, or below average

Situational Awareness:

General

- a. resides in the candidate's mind and can only be assessed by monitoring behaviour

Behaviour

- b. actively monitors weather, aircraft systems, instruments, ATC communications
- c. avoids tunnel vision and fixation
- d. stays "ahead of the aircraft", stays "with the aircraft", gets "behind the aircraft"

Identification and correction of errors

- a. Oops!, Slips and Lapses
- b. are some errors going undetected or uncorrected?

Flight Management Skills:

Degree of effectiveness

- a. makes effective use of available resources
- b. anticipates problems far enough in advance
- c. uses effective decision-making processes
- d. maintains the ability to adapt during high workload situations
- e. avoids distractions during high workload situations

Safety of Flight:

To what degree was safety maintained or jeopardized?

- a. respect for published procedures and limits
- b. effectiveness of lookout during visual manoeuvres
- c. errors that are serious or have potentially grave consequences
- d. breach of regulations (intervention required)
- e. any situation where the examiner had to intervene to ensure the safety of the flight

FLIGHT TEST EXERCISES

1. TECHNICAL KNOWLEDGE

Aim

Determine the candidate's ability to demonstrate a practical knowledge of selected systems, components, normal, abnormal and emergency procedures and operate aircraft systems in accordance with the POH/RFM.

Description

The ACP will conduct an equipment examination requiring the candidate to demonstrate a practical knowledge of the airframe, engine, major components and systems including the normal, abnormal, alternate and emergency operating procedures and limitations relating thereto.

For 704 and 705 PPC's the equipment examination is optional when the pilot's training record contains a valid written examination, from initial or annual training.

Pilots must demonstrate a practical knowledge of settling with power, vortex ring state, and dynamic rollover to show that they are aware of the causes, prevention and appropriate recovery procedures.

Performance Criteria

Assessment the candidate's ability to explain the operation of the following systems:

- a. landing gear (if appropriate);
- b. powerplant;
- c. rotor systems;
- d. fuel system;
- e. oil system;
- f. hydraulic system;
- g. electrical system;
- h. environmental systems;
- i. avionics and communications (autopilot; flight director; Electronic Flight Indicating Systems (EFIS); Flight Management System(s) (FMS); Long Range Navigation (LORAN) systems; Doppler Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS/DGPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter);
- j. ice protection;
- k. crewmember and passenger equipment (survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers);
- l. flight controls;
- m. pitot-static system with associated instruments and the power source for the flight instruments; and
- n. systems and components listed above with regard to the POH or RFM, the Minimum Equipment List (MEL), if appropriate, and the Operations Specifications, if applicable.

2. FLIGHT PLANNING (FLP)

Aim

Determine the candidate's ability to plan a flight utilizing performance charts, weight and balance calculations, conforming to the VFR or IFR flight rules as applicable and retrieving and interpreting aviation weather information necessary for the safe conduct of the flight.

Description

The flight planning phase begins when the flight crew initiates the use of flight planning information facilities and becomes dedicated to a flight based upon a route and an aircraft; ends when the crew arrives at the aircraft for the purpose of the planned flight or the crew initiates a "Flight Close" phase.

The ACP will conduct a flight planning practical examination requiring the candidate to demonstrate a knowledge of the air operators approved standard operating procedures and the Helicopter Flight Manual including helicopter performance charts where applicable, loading, weight and balance procedures and Flight Manual Supplements.

For 704 and 705 PPC's the flight planning examination is optional when the pilot's training record contains a valid written examination, from initial or annual training.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate a practical knowledge of performance and limitations, including a the adverse effects of exceeding any limitation;
- b. demonstrate proficient use of (as appropriate to the helicopter) performance charts, tables, graphs, or other data relating to items, such as:
 1. accelerate-stop distance
 2. accelerate-go distance
 3. takeoff performance—all engines, engine(s) operating
 4. climb performance including segmented climb performance; with all engines operating—with one or more engine(s) inoperative, and with other engine malfunctions as may be appropriate
 5. cruise performance
 6. fuel consumption, range, and endurance
 7. go-around from rejected landings
 8. other performance data (appropriate to the helicopter)
- c. describe (as appropriate to the helicopter) the airspeeds used during specific phases of flight;
- d. describe the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph, or other performance data;
- e. compute the centre-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight;
- f. determine if the computed centre-of-gravity is within the forward and aft centre-of-gravity limits, and that lateral fuel balance is within limits for takeoff and landing for the proposed flight;
- g. demonstrate acceptable planning and knowledge of procedures in applying operational factors affecting helicopter performance;
- h. select an appropriate route, altitude and alternate;
- i. locate and apply information essential to the flight;

- j. obtain and correctly interpret applicable NOTAM information;
- k. 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;
- l. determine that the required performance for the planned flight is within the helicopter's capability and operating limitations;
- m. make a competent "GO/NO-GO" decision based on available information for the planned flight;
- n. complete a flight plan in a manner that reflects the conditions of the proposed flight;
- o. demonstrate sufficient practical operational knowledge of the regulatory requirements relating to instrument and visual flying, as applicable; and
- p. retrieve and interpret items such as weather reports and forecasts; pilot and radar reports; surface analysis charts; significant weather prognostics; winds and temperatures aloft; freezing level charts, NOTAMS and SIGMETs.

3. PRE-FLIGHT (PRF)

Aim

Determine the candidate's ability to systematically complete internal and external checks in accordance with the POH/RFM and SOP's to ensure that the helicopter is ready for the intended flight. The candidate will also demonstrate knowledge of how to deal with irregularities, if found.

Description

The pre-flight begins with flight crew arrival at an aircraft for the purpose of flight and ends when the crew departs the parking position and/or starts the engine(s). It may also end by the crew initiating a "Post-flight" phase.

The candidate will determine that the helicopter is ready for the intended flight. The pre-flight helicopter inspection will include a visual inspection of the exterior and interior of the helicopter, locating each required item and explaining the purpose of the inspection in accordance with the POH/RFM and SOP's.

The candidate will carry out in accordance with the POH/RFM a visual check for fuel quantity, proper grade of fuel, fuel contamination and oil levels. If, due to aircraft design, the POH/RFM does not prescribe a visual check of fuel levels, the candidate will use fuel chits, fuel logs or other credible procedures to confirm the amount of fuel on board the aircraft.

At the request of the ACP, the candidate will conduct an oral passenger safety briefing.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate an adequate knowledge of the pre-flight inspection procedures, while explaining briefly the purpose of inspecting the items, which must be checked, how to detect possible defects and the corrective action to take;
- b. demonstrate adequate knowledge of the operational status of the helicopter by locating and explaining the significance and importance of related documents, such as airworthiness and registration certificates, operating limitations, handbooks, and manuals, minimum equipment list (MEL) (if appropriate), weight and balance data and maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot or other designated crewmember;
- c. use the approved checklist to inspect the helicopter externally and internally;
- d. use the challenge-and-response (or other approved) method with the other crewmember(s), where applicable to accomplish the checklist procedures;
- e. verify the helicopter is safe for flight by emphasizing (as appropriate) the need to look at and explain the purpose of inspecting items, such as:
 1. powerplant, including controls and indicators
 2. fuel quantity, grade, type, contamination safeguards, and servicing procedures
 3. oil quantity, grade, and type
 4. hydraulic fluid quantity, grade, type, and servicing procedures
 5. oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers
 6. hull, landing gear, float devices, brakes, and steering system
 7. tires for condition, inflation, and correct mounting, where applicable

8. fire protection/detection systems for proper operation, servicing, pressures, and discharge indications
 9. pneumatic system pressures and servicing
 10. ground environmental systems for proper servicing and operation
 11. auxiliary power unit (APU) for servicing and operation
 12. flight control systems including trim
 13. anti-ice, deice systems, ice warning systems, servicing, and operation
- f. comply with the provisions of the appropriate Operations Specifications, if applicable, as they pertain to the particular helicopter and operation;
 - g. demonstrate proper operation of all applicable helicopter systems;
 - h. note any discrepancies, determine if the helicopter is airworthy and safe for flight, or takes the proper corrective action with respect to unsatisfactory conditions identified; and
 - i. check the general area around the helicopter for hazards to the safety of the helicopter and personnel.

4. ENGINE START/DEPART (ESD)

Aim

Determine the candidate's ability to; complete the correct engine start procedures including the use of an auxiliary power unit (APU) or external power source under various atmospheric conditions, conducting warm-up, run-up and system checks, recognize normal and abnormal situations, and take proper action in the event of a malfunction.

Description

Engine start depart begins when the flight crew take action to have the aircraft moved from the parked position and/or take switch action to energize the engine(s). It ends when the aircraft begins to move under its own power or the crew initiates an "Arrival/Engine Shutdown" phase.

The candidate will demonstrate the proper use of the pre-start, start and pre-taxi check lists and check the appropriate radio communications, navigation and electronic equipment and selection of the appropriate communications and navigation frequencies prior to flight.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. ensure ground safety procedures are followed during the before-start, start, and after-start phases;
- b. ensure the appropriate use of ground crew personnel during the start procedures;
- c. perform all items of the start procedures by systematically following the approved checklist items for the before-start, start, and after-start phases;
- d. demonstrate sound judgment and operating practices in those instances where specific instructions or checklist items are not published;
- e. use the challenge-and-response (or other approved) method with the other crewmember(s), where applicable, to accomplish the checklist procedures;
- f. coordinate with ground crew and ensures adequate clearance prior to moving any devices, such as door, hatches, and flight control surfaces;
- g. demonstrate adequate knowledge of the pre-takeoff checks by stating the reason for checking the items outlined on the approved checklist and explaining how to detect possible malfunctions;
- h. divide attention properly inside and outside cockpit;
- i. ensure that all systems are within their normal operating range prior to beginning, during the performance of, and at the completion of those checks required by the approved checklist;
- j. explain, as may be requested by the ACP, any normal or abnormal system operating characteristic or limitation; and the corrective action for a specific malfunction;
- k. determine if the helicopter is safe for the proposed flight or requires maintenance;
- l. determine the helicopter's takeoff performance, considering such factors as wind, density altitude, weight, temperature, and pressure altitude.
- m. determine airspeeds/V-speeds and properly sets all instrument references, flight director and autopilot controls, and navigation and communications equipment;
- n. review procedures for emergency and abnormal situations, which may be encountered during takeoff, and states the corrective action required of the pilot in command and other concerned crewmembers;
- o. perform an avionics and navigation equipment cockpit check; and
- p. obtain and correctly interpret the takeoff and departure clearance as issued by ATC.

5. TAXI-OUT/HOVER (TXO)

Aim

Determine the candidate's ability to manoeuvre the helicopter safely in the hover and avoid unnecessary interference with the movement of other traffic as applicable.

Description

Taxi-out begins when the crew moves the helicopter under its own power and ends when thrust is increased for the purpose of take-off or the crew initiates a "Taxi-in" phase.

The candidate will taxi the aircraft to and from the runway in use and as otherwise required during the PPC. While taxiing, the candidate will follow taxiing procedures. In addition, the taxi check will include the use of the taxiing checklist, taxiing in compliance with clearances and instructions issued by the appropriate air traffic control unit or by the ACP. Where a second-in-command undergoes the pilot proficiency check, outlined above, evaluate taxiing to the extent practicable from the second-in-command position.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of safe taxi procedures (as appropriate to the helicopter);
- b. demonstrate proficiency by maintaining correct and positive helicopter control;
- c. maintain proper spacing on other aircraft, obstructions, and persons;
- d. accomplish the applicable checklist items and perform recommended procedures;
- e. maintain desired track and speed;
- f. perform an instrument check;
- g. comply with instructions/clearances issued by ATC (or the examiner simulating ATC);
- h. observe runway hold lines, localizer and glide slope critical areas and other surface control markings and lighting; and
- i. maintain constant vigilance and helicopter control during taxi operation to prevent runway incursion.

6-7. TAKE-OFF (TOF)

Aim

Determine the candidate's ability to take off safely using the correct technique and procedure for the actual wind conditions, runway surface and length, and can assess the possibility of further conditions such as wind shear and wake turbulence.

Description

Take-off begins when the crew increases the thrust for the purpose of lift-off; ends when an Initial Climb is established (35 feet above runway elevation) or the crew initiates a "Rejected Take-off" phase.

The candidate will demonstrate a normal takeoff performed in accordance with the Rotorcraft Flight Manual. The candidate will demonstrate an instrument take-off in the same manner as the normal take-off with simulated instrument conditions established at or after reaching an altitude of 200 feet above the airport elevation. The instrument take off is not required where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flight only. Where practicable, the candidate will demonstrate, one crosswind take-off performed in accordance with the RFM/AOM where applicable.

For PPC's conducted in a simulator, the candidate will demonstrate a take-off in a minimum 10 kts crosswind in addition to an instrument take-off at the minimum visibility approved for the operator.

Where an operator has RVR 1200 or RVR 600 take off limits authority, the candidate will demonstrate one such take off to the lowest limit as appropriate to his flight crew position.

Note: The ACP may combine any or all of these take-offs.

702 and 703 PPC's the candidate will demonstrate a simulated engine failure after take-off as follows:

- a. where performed in a visual synthetic training device, the simulated failure of the critical engine will occur at the take-off safety speed plus 10 kts; or
- b. where performed in an helicopter in flight, at a safe altitude as close to the take-off safety speed plus 10 kts as is safe and appropriate to the helicopter type under the prevailing conditions.

For 704 and 705 PPC's conducted in a simulator, the candidate will demonstrate a take-off with failure of the critical engine at a speed greater than V1 and at an altitude of less than 50 feet AGL; or at a speed as close as possible to, but greater than V1.

Performance Criteria Take off

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of normal and crosswind takeoffs and climbs including (as appropriate to the helicopter) airspeeds, configurations, and emergency/abnormal procedures;
- b. note any surface conditions, obstructions, or other hazards that might hinder a safe takeoff;
- c. verify and correctly apply correction for the existing wind component to the takeoff performance;
- d. complete required checks prior to starting takeoff to verify the expected powerplant performance. Performs all required pre-takeoff checks as required by the appropriate checklist items;
- e. aligns the helicopter on the runway centreline;
- f. apply the controls correctly to maintain longitudinal alignment on the centreline of the runway prior to initiating and during the takeoff;
- g. adjusts the powerplant controls as recommended by the POH/RFM or other approved guidance for the existing conditions;

- h. monitor powerplant controls, settings, and instruments during takeoff to ensure all predetermined parameters are maintained;
- i. adjusts the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular takeoff segment;
- j. perform the required pitch changes and, as appropriate, performs or calls for and verifies the accomplishment of, gear and flap retractions, power adjustments, and other required pilot-related activities at the required airspeed/Vspeeds within the tolerances established in the POH or RFM;
- k. use the applicable noise abatement and wake turbulence avoidance procedures, as required;
- l. accomplish or calls for and verifies the accomplishment of the appropriate checklist items;
- m. maintain the appropriate climb segment airspeed/Vspeeds; and
- n. maintain the desired heading within $\pm 10^\circ$ and the desired airspeed/V-speed within $+10/-5$ knots or the appropriate Vspeed range.

Performance Criteria Engine Failure After Take-Off (Multi-Engine)

Base the assessment on the candidate's ability to:

- a. recognize the simulated engine failure promptly;
- b. control the helicopter;
- c. identify and verify the inoperative engine;
- d. maintain directional control within ± 10 degrees of assigned heading.
- e. establish a positive rate of climb, if the helicopter is capable;
- f. accelerate to and maintain one engine inoperative required airspeed/Vspeeds and trim the helicopter, as required;
- g. continue the overshoot towards a specified altitude;
- h. locate the necessary controls and switches to carry out and complete the emergency procedures in accordance with the approved emergency procedures checklist (Engine Failure during Takeoff or Overshoot):
 - 1. complete prescribed engine failure vital action checks from memory;
 - 2. complete the emergency drill, in accordance with the emergency checklist; and
 - 3. complete engine shutdown checks and other necessary checks in accordance with the appropriate emergency checklist(s).
- i. monitor the operating engine and take appropriate action to keep the operating engine parameters within limitations.

8. REJECTED TAKE-OFF (RTO)

Aim

Determine the candidate's ability to recognize an abnormal situation necessitating a rejected takeoff and to carry out an appropriate procedure in accordance with the RFM/POH and/or SOP's.

Description

Rejected take-off begins when the crew decides to reduce thrust for the purpose of stopping the aircraft prior to the end of the Take-off phase and ends when the aircraft is taxied off the runway for a "Taxi-in" phase or when the aircraft is stopped and the engines are shutdown.

When performed in a simulator, the candidate will demonstrate a rejected take-off before reaching lift-off speed or if conducted in the aircraft, the candidate will verbally explain this manoeuvre during the briefing. . Where an operator has RVR 1200 or RVR 600 take off limits authority, the candidate will demonstrate one such rejected take off to the lowest limit as appropriate to his flight crew position.

For 704 and 705 PPC's conducted in a simulator, the candidate will demonstrate a rejected take-off from a speed of not less than 90% of the calculated V1 or less if appropriate to the helicopter type

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of the technique and procedure for accomplishing a rejected takeoff after powerplant/system(s) failure/warnings, including related safety factors;
- b. take into account, prior to beginning the takeoff, operational factors which could affect the manoeuvre, such as Takeoff Warning Inhibit Systems or other helicopter characteristics, runway length, surface conditions, wind, obstructions that could affect takeoff performance and could adversely affect safety;
- c. align the helicopter on the runway centreline;
- d. perform all required pre-takeoff checks as required by the appropriate checklist items;
- e. adjust the powerplant controls as recommended for the existing conditions;
- f. apply the controls correctly to maintain longitudinal alignment on the centreline of the runway;
- g. abort the takeoff if, in a single-engine helicopter the powerplant failure occurs prior to becoming airborne, or in a multiengine helicopter, the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the helicopter can be safely stopped on the remaining runway/stopway. If a flight simulator is not used, the powerplant failure will be explained by the candidate prior to the flight;
- h. reduce the power smoothly and promptly, if appropriate to the helicopter, when powerplant failure is recognized; and
- i. use wheel brakes as appropriate, maintaining positive control in such a manner as to bring the helicopter to a safe stop. Accomplishes the appropriate powerplant failure or other procedures and/or checklists as set forth in the POH or RFM or SOP.

9. INITIAL CLIMB (ICL) / ENROUTE CLIMB (ECL)

Aim

Determine the candidate's ability to comply with initial climb departure procedures and enroute departure procedures as cleared.

Description

The candidate will complete the initial climb procedures, the departure procedures and establish the aircraft on the enroute course, as cleared, in accordance with the Visual or Instrument Flight Rules, as applicable. In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria Initial Climb

Base the assessment on the candidate's ability to:

- a. transition smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions, where applicable;
- b. monitor powerplant controls, settings, and instruments during the initial climb to ensure all predetermined parameters are maintained;
- c. adjusts the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular takeoff and climb segment;
- d. perform the required pitch changes and, as appropriate, performs or calls for and verifies the accomplishment of, gear retraction, power adjustments, and other required pilot-related activities at the required airspeed/Vspeeds within the tolerances established in the POH or RFM and SOP's;
- e. use the applicable noise abatement procedures, as required;
- f. accomplish or call for and verify the accomplishment of the appropriate checklist items;
- g. maintain the desired heading within $\pm 10^\circ$ and the desired airspeed/V-speed within $+10/-5$ knots or the appropriate Vspeed range; and
- h. comply with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).

Performance Criteria Enroute Climb

Base the assessment on the candidate's ability to:

- a. establish communications with ATC, using proper phraseology;
- b. select and identify use the appropriate communications and navigation systems associated with the proposed departure phase;
- c. perform the aircraft 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 departure, noise abatement and transition procedures or ATC instructions;
- f. comply, in a timely manner, with all instructions and airspace restrictions;
- g. maintain proper aircraft control and flight within operating configurations and limitations;
- h. maintain assigned headings within ± 10 degrees;
- i. maintain assigned tracks and bearings within ± 10 degrees;
- j. maintain altitude within ± 100 feet;
- k. exhibit adequate knowledge of two-way radio communications failure procedures; and
- l. conduct the departure phase to a point where, in the opinion of the examiner, the transition to the en route environment is complete.

10. CRUISE (CRZ)

Aim

Determine the candidate's ability to establish the helicopter in cruising flight at the pre-planned power settings in accordance with the POH/RFM and to determine the candidate's ability to comply with enroute procedures as cleared.

Description

The cruise begins when the crew establishes the aircraft at a defined speed and predetermined constant initial cruise altitude and proceeds in the direction of a destination and ends with the beginning of Descent for the purpose of an approach or by the crew initiating an "En Route Climb" phase.

The candidate will establish the helicopter in cruising flight in accordance with the performance charts in the POH/RFM, placards displayed in the helicopter or any other means authorized by the manufacturer. In addition, the candidate will maintain the aircraft on the enroute course and comply with enroute procedures, as cleared, in accordance with Visual or Instrument Flight Rules, as applicable. The candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment 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. perform the aircraft checklist items relative to the phase of flight;
- d. intercept, in a timely manner, all tracks, radials and bearings appropriate to the route or clearance;
- e. adhere to the enroute procedures;
- f. maintain proper aircraft control and flight within operating limitations;
- g. maintain assigned heading, tracks or bearings within ± 10 degrees, and altitude within ± 100 feet;
- h. set the power at the pre-planned power setting, as recommended by the POH/RFM;
- i. apply any additional measures recommended by the manufacturer with respect to aircraft configuration or other considerations; and
- j. confirm cruise performance and demonstrate good decision-making to deal with the consequences of variances from the expected performance (ETA revision, fuel management).

11. STEEP TURNS

Aim

Determine the candidate's ability to perform level and coordinated steep turns.

Description

At an operationally safe altitude recommended by the manufacturer, training syllabus, or other training directive, the candidate will execute at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°. The candidate will specify the selected altitude, airspeed and initial heading before entering the turn.

For 704 and 705 PPC's conducted in a simulator, ACP need not evaluate steep turns are when the PPC follows either a LOFT scenario, a scripted PPC or is for a fly-by wire helicopter; and

- a. for an initial PPC on helicopter type, steep turns were satisfactorily demonstrated during initial training;
- b. for semi-annual or an annual PPC:
 1. steep turns that are part of the applicable annual training syllabus were satisfactorily demonstrated during this training; or
 2. steep turns are not part of the applicable annual training syllabus.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. where applicable, divide attention appropriately between outside visual references and instrument indications;
- b. roll into and out of turns, using smooth and coordinated pitch, bank and power control to maintain the specified altitude within ± 100 feet and the desired airspeed within ± 10 knots;
- c. establish the recommended entry airspeed;
- d. maintain the bank angle of 45° within $\pm 10^\circ$ while in smooth stabilized flight;
- e. after 180° of turn, roll out of the turn at approximately the same rate used to roll into the turn and reverse the direction of turn and repeat the manoeuvre in the opposite direction;
- f. roll out of the turn at the reversal heading and the entry heading within $\pm 10^\circ$; and
- g. avoid any indication of abnormal flight attitude, or exceeding any structural or operating limitation during any part of the manoeuvre.

12. HOLDING

Aim

Determine the candidate's ability to establish the aircraft in a holding pattern using an actual or simulated ATC clearance.

Description

In actual or simulated instrument conditions, the candidate must demonstrate adequate knowledge of a holding procedure for a standard or non-standard, published or non-published holding pattern. If appropriate, the candidate must demonstrate adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc.

Based on an actual or simulated clearance, the candidate will select a suitable entry procedure, enter the hold and establish the aircraft in the holding pattern. Also, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. change to the recommended holding airspeed appropriate for the helicopter and holding altitude, so as to cross the holding fix at or below maximum holding airspeed;
- b. recognize arrival at the clearance limit or holding fix and initiate entry into the holding pattern;
- c. follow appropriate entry procedures for a standard, nonstandard, published, or non-published holding pattern;
- d. report entering the hold;
- e. comply with ATC reporting requirements;
- f. use the proper timing criteria required by the holding altitude and ATC or examiner's instructions;
- g. comply with the holding pattern leg length when a DME distance is specified;
- h. use the proper wind-drift correction techniques to accurately maintain the desired radial, track, courses, or bearing;
- i. arrive over the holding fix as close as possible to the "expect further clearance" time;
- j. maintain the appropriate airspeed/V-speed within ± 10 knots, altitude within ± 100 feet, headings/tracks/course within $\pm 10^\circ$ or within $\frac{1}{2}$ scale deflection of the course deviation indicator, as applicable and accurately tracks radials, courses, and bearings; and
- k. maintain proper aircraft control and flight within operating configurations and limitations while in the hold.

13. DESCENT (DST)

Aim

Determine the candidate's ability to comply with visual or instrument arrival procedures, as applicable.

Description

Descent begins when the crew departs the cruise altitude for the purpose of an approach at a **particular destination** and ends when the crew initiates changes in aircraft configuration and/or speeds to facilitate a landing on a particular runway. It also may end by the crew initiating an "En Route Climb" or "Cruise" phase.

The candidate will complete the arrival procedures, as cleared, in accordance with Instrument Flight Rules or Visual Flight Rules, as applicable. In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of En Route Low Charts, FMS Procedures, Instrument Approach Procedure Charts, VFR Charts, as applicable, and related pilot and controller responsibilities;
- b. select and identify the navigation aids associated with the proposed arrival phase;
- c. select and correctly identify all instrument references, flight director and autopilot controls, and navigation and communications equipment associated with the arrival;
- d. perform the helicopter checklist items appropriate to the arrival;
- e. select and establish communications with ATC, using proper phraseology;
- f. comply, in a timely manner, with all ATC clearances, instructions, and restrictions;
- g. demonstrate adequate knowledge of two-way communications failure procedures;
- h. intercept, in a timely manner, all tracks, radials and bearings appropriate to the procedure, route, ATC clearance, or as directed by the ACP;
- i. correctly adhere to visual or instrument arrival procedures;
- j. adhere to airspeed restrictions and adjustments required by regulations, ATC, the POH/RFM, SOP's or the ACP;
- k. establish, where appropriate, a rate of descent consistent with the helicopter operating characteristics and safety;
- l. maintain the appropriate airspeed/V-speed within ± 10 knots, , if applicable; heading $\pm 10^\circ$; altitude within ± 100 feet; and accurately tracks radials, courses, and bearings;
- m. complies with the provisions of arrival procedures, as appropriate; and
- n. maintain proper aircraft control and flight within operating limitations.

14-15. APPROACH (APR)

Aim

Determine the ability of the candidate to fly a successful stabilized precision and non-precision instrument approach in accordance with the published instrument approach procedure.

Description

The approach begins when the crew initiates changes in aircraft configuration and/or speeds enabling the aircraft to manoeuvre for the purpose of landing on a particular runway and ends when the aircraft is in the landing configuration and the crew is dedicated to land on a specific runway. It may also end by the crew initiating an "Initial Climb" or "Go-around" phase.

The candidate will demonstrate at least two instrument approaches performed in accordance with procedures and limitations in the Canada Air Pilot or in the equivalent foreign publications, or approved company approach procedure for the approach facility used. Where practicable the candidate will fly one precision approach (3D) and one a non-precision approach (2D). For multiengine helicopters PPCs, complete at least one approach with a simulated failure of one powerplant. The simulated powerplant failure should occur before initiating the final approach segment and must continue to touchdown or throughout the missed approach procedure.

For 704 and 705 PPCs conducted in a simulator, one of the approaches will be a precision (3D) and one a non-precision approach. The candidates will demonstrate the proper programming and use of Flight Management Systems as applicable.

Note: On an Initial Instrument Rating flight test, a precision approach is mandatory.

Note: The candidate may fly at altitudes higher than the applicable minimum altitudes depicted on the approach chart, but descent during the final segment of the approach should result in reaching the MDA at a distance from the MAP approximately equal to the recommended minimum visibility. The minimum altitudes depicted on the approach chart represent hard approach floor heights above terrain or other obstacles determined during the approach design process. Descent below these altitudes compromises the approach design safety factor.

Note: In accordance with the exemption to CAR 602.128(2)(b), a pilot may descend below the MDA which is likely to occur during a missed approach following a stabilized constant descent angle non precision approach. This exemption is subject to the following conditions:

- 1. the pilot-in-command will conduct a final approach with a planned stabilized constant descent angle (SCDA) from the final approach fix to a normal landing runway threshold crossing height of 50 feet;*
- 2. the pilot-in-command will initiate a missed approach upon reaching the earliest of either the Decision Altitude (Minimum Descent Altitude), or the missed approach point, or the required visual reference necessary to continue to land has not been established;*
- 3. a SCDA approach will not be conducted on procedures requiring remote altimeter setting correction;*
- 4. the instrument approach procedure flown is to straight-in minima, and the final approach course will not be more than 15 degrees from runway centreline; and*
- 5. the pilot-in-command and the air operator will maintain compliance with the schedule attached to the exemption which pertains to a training program, Standard Operating Procedures and Required Aircraft Equipment.*

Non Precision Instrument Approach (2D)

Performance Criteria

Base the assessment on the candidate's ability to:

- a. select and comply with the VOR/ LOC/ LOC BC or NDB instrument approach procedure to be performed;
- b. establish two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment;
- c. comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- d. select, tune, identify, confirm and monitor the operational status of ground and aircraft navigation equipment to be used for the approach procedure;
- e. establish the appropriate aircraft configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions;
- f. complete the aircraft check list items appropriate to the phase of flight or approach segment, including engine out approach and landing checklist, as appropriate;
- g. apply altitude corrections to all minimum altitudes depicted on the approach chart used when aerodrome temperatures are 0 degrees Celsius or colder in accordance with the General Section of the Canada Air Pilot;
- h. prior to final approach course, maintain declared altitudes (± 100 feet) without descending below applicable minimum altitudes, and maintain headings (± 10 degrees);
- i. apply necessary adjustment to the published Minimum Descent Altitude (MDA) and visibility criteria for the helicopter approach category when required, such as NOTAMS, inoperative helicopter and ground navigation equipment, inoperative visual aids associated with the landing environment;
- j. on the intermediate and final segments of the final approach course:
 1. maintain VOR/ LOC/ LOC BC/ tracking within $\frac{1}{2}$ scale deflection of the course deviation indicator or within 5 degrees of the desired track in the case of an NDB approach;
 2. fly the approach in a stabilized manner without descending below the applicable minimum altitudes depicted on the approach chart (+as required/-0 feet);
 3. 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 completion of the visual portion of the approach with a normal rate of descent and minimal manoeuvring;
- k. maintain declared approach airspeeds (+10/-5 knots);
- l. initiate the missed approach procedure, if the required visual references for the intended runway are not obtained at the MAP
- m. execute a normal landing from a straight-in approach.

GPS Approach (2D)

Performance Criteria

Base the assessment on the candidate's ability to:

- a. select and comply with the GPS instrument approach procedure to be performed;
- b. establish two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment;
- c. comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply
- d. retrieve the GPS approach from the database, conduct a Receiver Autonomous Integrity Monitoring (RAIM) check or a multi-sensor RNAV check and verify the approach waypoints used for the approach procedure;
- e. establish the appropriate aircraft configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions
- f. complete the aircraft check list items appropriate to the phase of flight or approach segment, including engine out approach and landing checklist, as appropriate;
- g. apply altitude corrections to all minimum altitudes depicted on the approach chart used when aerodrome temperatures are 0 degrees Celsius or colder in accordance with the General Section of the Canada Air Pilot.
- h. prior to final approach course, maintain declared altitudes (± 100 feet) without descending below applicable minimum altitudes and maintain headings (± 10 degrees);
- i. apply necessary adjustment to the published Minimum Descent Altitude (MDA) and visibility criteria for the helicopter approach category when required, such as NOTAMS, inoperative helicopter and ground navigation equipment, inoperative visual aids associated with the landing environment.
- j. take appropriate action in the event that a RAIM alert is displayed when the aircraft is established on the final approach course;
- k. on the intermediate and final segments of the final approach course:
 1. maintain GPS track bar within $\frac{1}{2}$ scale deflection;
 2. fly the approach in a stabilized manner without descending below the applicable minimum altitudes depicted on the approach chart (+as required/-0 feet);
 3. announce the approach active mode within 2 nm prior to reaching the Final Approach Waypoint (FAWP) inbound;
- l. 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 completion of the visual portion of the approach with a normal rate of descent and minimal manoeuvring;
- m. maintain the declared approach airspeeds within $+10/-5$ knots;
- n. initiate the missed approach procedure when the required visual references for the intended runway are not obtained at the MAWP; and
- o. execute a normal landing from a straight-in.

Precision Instrument Approach (3D)

Performance Criteria

Base the assessment on the candidate's ability to:

- a. select and comply with the ILS instrument approach procedure to be performed;
- b. establish two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment;
- c. comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- d. select, tune, identify and confirm the operational status of ground and aircraft navigation equipment to be used for the approach procedure;
- e. establish the appropriate aircraft configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions;
- f. complete the aircraft check list items appropriate to the phase of flight or approach segment, including engine out approach and landing checklist, as appropriate;
- g. apply altitude corrections to all minimum altitudes depicted on the approach chart used when aerodrome temperatures are 0 degrees Celsius or colder in accordance with the General Section of the Canada Air Pilot;
- h. prior to final approach course, maintain declared or assigned altitudes within ± 100 feet without descending below applicable minimum altitudes and maintain headings within ± 10 degrees;
- i. apply necessary adjustment to the published Decision Height (DH) and visibility criteria for the helicopter approach category when required, such as NOTAMS, inoperative helicopter and ground navigation equipment, inoperative visual aids associated with the landing environment;
- j. on final approach course, allow no more than $\frac{1}{2}$ scale deflection of the localizer and/or glideslope indications;
- k. maintain declared approach airspeeds within $+10/-5$ knots;
- l. maintain a stabilized descent to the Decision Height (DH) to permit completion of the visual portion of the approach and landing with minimal manoeuvring; and
- m. initiate the missed approach procedure, upon reaching the DH, when the required visual references for the intended runway are not obtained.

16. GO-AROUND (GOA)

Aim

Determine the candidate's ability to carry out a successful missed approach.

Description

The go-around begins when the crew aborts the descent to the planned landing runway during the Approach phase and ends after speed and configuration are established at a defined manoeuvring altitude or to continue the climb for the purpose of cruise.

Following an instrument approach, the candidate will conduct a missed approach at any time from intercepting final approach to touch down on the runway. Except where ATC amends it, the candidate must follow the published missed approach profile.

In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Missed Approach

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of missed approach procedures associated with standard instrument approaches;
- b. initiate the missed approach procedure promptly by the timely application of power, establish the proper climb attitude, and reduce drag in accordance with the approved procedures;
- c. report to beginning the missed approach procedure;
- d. comply with the published or alternate missed approach procedure;
- e. report with ATC anytime the aircraft is unable to comply with a clearance, restriction, or climb gradient;
- f. follow the recommended helicopter check list items appropriate to the go-around procedure;
- g. request a clearance, if appropriate, to the alternate airport, another approach, a holding fix, clearance limit, or as directed by the ACP; and
- h. maintain recommended airspeeds within +10/-5 knots;
- i. maintain heading, track or bearing within ± 10 degrees; and
- j. climb to and maintain the published missed approach altitude, or as cleared by ATC or the examiner within ± 100 feet.

17. CONFINED AREA

Aim

Determine the candidate's ability to carry out an approach to landing into an area of restricted dimension

Description

The confined area exercise begins when the pilot has an area pointed out by the ACP, or is instructed to find a suitable place to land. It ends when the helicopter has safely exited the confined area and is climbing away.

The ACP must assess the decision making process that the candidate uses in selecting and reconnoitring a suitable area. The ACP should not unfairly influence this process by deliberately instructing the candidate to land in an area that the ACP believes to be unsuitable.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate ability to conduct a systematic reconnaissance;
- b. conduct reconnaissance at an appropriate altitude and airspeed
- c. establish and take account of the size, shape, slope, surface, or surrounds of the area, and the direction of the wind and sun;
- d. select appropriate approach or departure path;
- e. maintain airspeed and reasonable rate of descent on approach;
- f. touchdown in the suitable part of the area;
- g. ensure the tail is clear in hover turns;
- h. conduct an appropriate departure profile;
- i. remain clear of obstacles

18. SLOPING GROUND.

Aim

Determine the candidate's ability to land on an unlevelled surface in accordance with limitations specified in the RFM.

Description

This exercise begins with the selection of a suitable area and ends when the helicopter is no longer over the sloping ground.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. select a slope that is within the helicopter's capability;
- b. not drift or yaw while landing and taking off;
- c. displace the cyclic to keep the disk level whilst lowering the aircraft to the ground after initial contact;
- d. displace the cyclic to keep the disk level on takeoff to minimize roll or pitch oscillations when breaking contact with the ground;
- e. keep the tail away from the slope;
- f. smoothly handle the aircraft and prevent it from falling abruptly or leaping abruptly into the air;
- g. lower the aircraft within an acceptable roll or pitch attitude.

19-20. LANDING (LDG)

Aim

Determine the candidate's ability to carry out a normal or crosswind landing and, where practical, a landing from an instrument approach by visual descent from an approach MDA or DA.

Description

Landing begins when the aircraft is in the landing configuration and the crew is dedicated to touch down on a specific runway; ends when the speed permits the aircraft to be manoeuvred by means of taxiing for the purpose of arriving at a parking area. It may also end by the crew initiating a "Go-around" phase.

The candidate will demonstrate:

- a. one normal landing which, where practical, be conducted without external or internal glideslope information;
- b. one landing from an instrument approach and, where prevailing conditions prevent an actual landing, an approach to a point where a landing could have been made. This is not required where the air operator's certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only;
- c. one crosswind landing, where practicable, under existing meteorological, runway and airport traffic conditions;
- d. one landing and manoeuvring to that landing with a simulated failure of 50 percent of the available engines; and

*Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of **two** landings is required.*

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of normal and crosswind approaches and landings including recommended approach angles, airspeeds, V-speeds, configurations, performance limitations, and ATC or examiner instructions;
- b. consider factors to be applied to the approach and landing such as displaced thresholds, meteorological conditions, NOTAMs, wake turbulence, wind shear, microburst, gust/wind factors, visibility, runway surface, braking conditions, and other related safety factors (as appropriate to the helicopter);
- c. establish the approach and landing configuration appropriate for the runway and meteorological conditions, and adjust the powerplant controls as required;
- d. perform the aircraft checklist items relative to the phase of flight;
- e. maintains a ground track that ensures the desired traffic pattern will be flown, taking into account any obstructions and ATC or ACP instructions;
- f. verify existing wind conditions, makes proper correction for drift, and maintains a precise ground track;
- g. maintain a stabilized approach and the desired airspeed/V-speed within +10/-5 knots.
- h. execute a landing from an approach MDA or DA when the required visual references for the intended runway are obtained;
- i. accomplish a smooth, positively controlled transition from final approach to touchdown or to a point in the opinion of the ACP that a safe full stop landing could be made;

- j. maintain positive directional control and crosswind correction during the after-landing roll;
- k. use wheel brakes, as appropriate, in such a manner to bring the helicopter to a safe stop; and
- l. complete the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

21. GROUND ARRIVAL

Aim

Determine the candidate's ability to conduct after landing taxi in, arrival/engine shutdown, post-flight and flight close procedures as appropriate.

Description

The candidate will demonstrate the ability to manoeuvre the aircraft under its own power to an arrival area for parking, shut down the engine(s) and ancillary systems and conduct required post flight procedures such as securing the aircraft.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate proficiency by maintaining correct and positive control;
- b. consider the safety of nearby persons or property by maintaining proper look-out, spacing between aircraft and obstructions;
- c. accomplish the applicable checklist items and performs the recommended procedures;
- d. maintain the desired taxi speed;
- e. comply with instructions issued by ATC (or the examiner simulating ATC);
- f. observe runway hold lines, localizer and glide slope critical areas, and other surface control markings and lighting to prevent a runway incursion;
- g. maintain constant vigilance and helicopter control during the taxi operation; and
- h. record forms/logs and flight time/discrepancies.

22. PNF DUTIES

Aim

Determine the candidate's ability to demonstrate proper division of PNF duties in accordance with the Company Operations Manual and SOP's.

Description

Each pilot will demonstrate PNF duties sufficient to determine compliance with and knowledge of, aircraft procedures and company SOP's. This will include normal and abnormal procedures while operating as PNF. Flight crew may be required to conduct PNF duties from a seat position that they do not normally occupy (PPC with two Captains or two F/Os). In this situation, the training unit will provide PNF training to the candidates in the seat they will occupy during the PPC.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. adhere to PNF duties as outlined in the Company Operations Manual and/or SOP's;
- b. complete necessary duties assigned by the pilot flying;
- c. maintain crew discipline during normal and abnormal procedures;
- d. demonstrate familiarity with the procedures contained in the QRH or paper checklist;
- e. demonstrate FMS inputs, as applicable;
- f. maintain situational awareness as a crew member;
- g. effectively share cockpit workload; and
- h. maintain crew awareness, or attention to flight mode annunciations.

23. ENGINE FAILURE

Aim

Determine the candidate's ability to maintain control of the aircraft and carry out the appropriate engine failure procedures in accordance with the POH/RFM and/or SOP's.

Description

The pilot will demonstrate the ability to maintain control and safely handle malfunctions on at least two simulated engine failures any time during the check. The engine failures in this section exclude engine failures on the runway followed by a rejected take-off.

Engine Failure – Multi-Engine Helicopter

Performance Criteria

Base the assessment on the candidate's ability to:

- a. recognize an engine failure or the need to shut down an engine as simulated by the ACP;
- b. complete engine failure vital action checks from memory;
- c. maintain positive helicopter control.
- d. set powerplant controls, reduce drag as necessary, correctly identify and verify the inoperative powerplant(s) after the failure (or simulated failure);
- e. maintain the operating powerplant(s) within acceptable operating limits;
- f. establish the best engine inoperative airspeed as appropriate to the aircraft and condition of flight;
- g. establish and maintain the recommended flight attitude and configuration for the best performance for all manoeuvring necessary for the phase of flight;
- h. follow the prescribed helicopter checklist, and verify the procedures for securing the inoperative powerplant(s);
- i. determine the cause for the powerplant(s) failure and if a restart is a viable option;
- j. maintain desired altitude within ± 100 feet, when a constant altitude is specified and is within the capability of the helicopter;
- k. maintain the desired airspeed within ± 10 knots;
- l. maintain the desired heading within $\pm 10^\circ$ of the specified heading;
- m. demonstrate proper powerplant restart procedures (if appropriate) in accordance approved procedure/checklist or the manufacturer's recommended procedures and pertinent checklist items; and
- n. monitor all functions of the operating engine and make necessary adjustments.

Engine Failure – Single Engine Helicopter

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of the flight characteristics, approach and forced (emergency) landing procedures, and related procedures to use in the event of a powerplant failure (as appropriate to the helicopter);
- b. maintain positive control throughout the manoeuvre;
- c. establish and maintain the recommended autorotation airspeed, ± 10 knots, and configuration during a simulated powerplant failure;
- d. select a suitable airport or landing area, which is within the performance capability of the helicopter;
- e. establish a proper flight pattern to the selected airport or landing area, taking into account altitude, wind, terrain, obstructions, and other pertinent operational factors;
- f. follow the emergency checklist items appropriate to the helicopter;
- g. determine the cause for the simulated powerplant failure (if altitude permits) and if a restart is a viable option; and

24. AUTOROTATION

Aim

Determine the candidate's ability to recover from an engine failure at the most critical stage of flight.

Description

The ACP may brief the candidate to use a particular aiming point for autorotations, or a limited area on the airport. The autorotation will terminate in a touchdown or power recovery, depending on the wishes of the Air Operator. The management of the particular aspects of the power recovery is not assessed, as it is neither a normal nor emergency flight manoeuvre, but a training artificiality.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. control Nr and airspeed;
- b. adjust airspeed, heading, and Nr in a timely fashion to make the assigned aiming point or area;
- c. make the assigned point or area;
- d. maintain coordinated flight;
- e. complete essential actions, such as lowering the landing gear;
- f. maintain correct airspeed before the flare;
- g. initiate the flare at the right point;
- h. assume the correct attitude for landing to avoid pitch or roll oscillations after touchdown;
- i. have the helicopter land without yaw;
- j. cushion properly;
- k. maintain control of Nr before touchdown;
- l. control speed on touchdown;
- m. avoid landing hard;
- n. avoid rough handling, not risking rotor contact with tail;

25-28. ABNORMAL/EMERGENCIES

Aim

Determine the candidate's ability to complete recommended checks and procedures in accordance with the POH, RFM, or other applicable publications in event of system malfunctions or other emergencies.

Description

System malfunctions will consist of a selection adequate to determine that the pilot has satisfactory knowledge and ability to safely handle malfunctions. The candidate will be required to demonstrate the use of as many simulated abnormal and emergency procedures as is necessary to confirm that the pilot has an adequate knowledge and ability to perform these procedures.

Performance Criteria

Base the assessment on the candidate's ability to:

- a. demonstrate adequate knowledge of the emergency procedures appropriate to the approved RFM (as may be determined by the ACP) relating to the particular helicopter type;
- b. promptly identify the malfunctions;
- c. promptly apply correct checks and procedures in accordance with the POH/RFM, or other approved publication;
- d. consider and apply any restrictions or limitations to the operation of a system(s) and procedures in order to continue the flight;
- e. demonstrate knowledge and discipline in the use of the electronic checklist and alerting system, as applicable; and
- f. develop a reasonable course of action for the remainder of the flight.

SAMPLE LETTER OF RECOMMENDATION

PILOT PROFICIENCY CHECK RECOMMENDATION

CANDIDATE INFORMATION			
Name:		Licence Number:	Operator/Training Unit:
<input type="checkbox"/> Single Pilot	<input type="checkbox"/> Captain	<input type="checkbox"/> Initial	<input type="checkbox"/> Upgrade
<input type="checkbox"/> Multi-Crew	<input type="checkbox"/> First Officer	<input type="checkbox"/> Recurrent	<input type="checkbox"/> VFR Only
<input type="checkbox"/> Initial Type Rating. Type: _____ (Reference: CAR Standard 421 – Appendix A – Aircraft Type Designators)			
<input type="checkbox"/> Attached 26-0083 Flight Crew Permit/License - Application for Endorsement of a Rating			

COMMERCIAL AIR SERVICE STANDARDS PPC TRAINING REQUIREMENTS		
<input type="checkbox"/> Company Indoctrination	<input type="checkbox"/> High Altitude Training (Initial and Every 3 Years)	
<input type="checkbox"/> Technical Ground Training: (hours)	<input type="checkbox"/> Pacific RNP-10	
<input type="checkbox"/> Synthetic FTD: (hours)	<input type="checkbox"/> RVSM	
<input type="checkbox"/> Helicopter Only Flight Training Program (hours)	<input type="checkbox"/> Aerial Work	
<input type="checkbox"/> S/E Helicopters Carrying PAX VFR at Night or Under IFR	<input type="checkbox"/> Take-Off Minima RVR 1200 (1/4 mile)	
<input type="checkbox"/> Emergency Procedures Training (EPT)	<input type="checkbox"/> Aerial Work	
<input type="checkbox"/> EPT Practical (Initial and Every 3 Years)	<input type="checkbox"/> Right Seat Conversion	
<input type="checkbox"/> Upgrade Training	<input type="checkbox"/> Survival Equipment	
<input type="checkbox"/> Surface Contamination/Airborne Icing	<input type="checkbox"/> CFIT (Initial and Every 2 Years)	
<input type="checkbox"/> Servicing and Ground Handling	<input type="checkbox"/> Lower Than Standard Take-Off Minima (RVR 1200/600)	
<input type="checkbox"/> Area Navigations Systems (RNAV)	<input type="checkbox"/> Category II and III Operations	
<input type="checkbox"/> Minimum Equipment List (MEL)	<input type="checkbox"/> Low Energy Awareness	
<input type="checkbox"/> Transportation of Dangerous Goods	<input type="checkbox"/> Other: (i.e. Ops Specs) Please Specify in Comments	
Comments:		
Closed Book Exam: %	Open Book Exam: %	Aircraft Type:

PPC RECOMMENDATION		
I have reviewed the candidates training documentation and hereby certify that the above mandatory training requirements have been met in accordance with the company's APPROVED training program as outlined in the Company Operations Manual.		
Name (Operations Manager/Chief Pilot)	Signature:	Date: