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PILOT PROFICIENCY CHECK AND AIRCRAFT TYPE RATING

Flight Test Guide (Helicopter)

Third Edition

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Canada

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Foreword

This document provides guidance on flight test exercises relevant to Pilot Proficiency Checks (PPCs) as prescribed in *Canadian Aviation Regulations* (CARs) Part VII and associated *Commercial Air Service Standards* (CASS).

Guidance is primarily intended for Approved Check Pilots (ACPs) and Transport Canada Civil Aviation Safety Inspectors (CASIs). **Important policies, procedures and guidelines regarding PPCs are provided in the following document: ACP Manual, TP 6533.**

Transport Canada Civil Aviation (TCCA) issuing authorities approve ACPs and CASIs, and authorize them to conduct PPCs. When performing their duties, ACPs and CASIs act as delegates of the Minister according to subsection 4.3(1) of the *Aeronautics Act* and must follow the procedures specified in the ACP Manual, TP 6533 and this guide.

Description of Changes

This revision improves the quality and standardization of existing policies and incorporates program changes consistent with the ACP Manual, TP 6533 and other documents. There are changes in all areas of the Second Edition. Reviewing this document in its entirety is recommended. For more information, consult ACP Bulletin no. 01/24.

Pilot Proficiency Checks

Flight test exercises found in this guide are based on examinations, manoeuvres and procedures specified in CARs Part VII, CASS, PPC Schedules. They are numbered consistent with the Transport Canada Online PPC Flight Test Report (previously form 26-0249).

Alternative Phased PPC - Air operators operating under CARs 702 to 704 may utilize the Alternate Phased-PPC. Advisory Circular (AC) 700-062 contains important information in addition to the ACP Manual, TP 6533 and this guide.

Competency Based Training (CBT) / Evidence Based Training (EBT) Integrated PPC - (Reserved)

Skills test requirements found in CARs Part IV - PPCs may be used to satisfy skills test requirements for certain flight crew licenses (e.g., Airline Transport Pilot License (ATPL)) and ratings (e.g., aircraft and instrument). In these instances, important information is found in the ACP Manual, TP 6533 and this guide.

For more information, please contact:

Commercial Flight Standards (AARTF)
Transport Canada
E-mail: AARTFinfo-InfoAARTF@tc.gc.ca

Jamie-Lee MacDermid
Executive Director, Standards Branch
Civil Aviation

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Acronyms

ABAS	Aircraft-Based Augmentation System
ACP	Approved Check Pilot
AAE	Above Aerodrome Elevation
AOM	Aircraft Operating Manual
APV	Approach with Vertical Guidance
ATC	Air Traffic Control
ATPL	Airline Transport Pilot Licence, AA – Aeroplane; AH – Helicopter
CAP	Canada Air Pilot
CARs	<i>Canadian Aviation Regulations</i>
CASI	Civil Aviation Safety Inspector
CASS	<i>Commercial Air Service Standards</i>
CBT	Competency Based Training
CDP	Critical Decision Point
COM	Company Operations Manual
CRM	Crew Resource Management
DA	Decision Altitude
DH	Decision Height
EBT	Evidence Based Training
ECL	Emergency Checklist
EFB	Electronic Flight Bag
ETA	Estimated Time of Arrival
FAF	Final Approach Fix
FAWP	Final Approach Waypoint
FLIP	Flight Information Publication
FMS	Flight Management System
FOM	Flight Operations Manual
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
FTR	Flight Test Report
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
IAP	Instrument Approach Procedure
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
LP	Localizer Performance without Vertical Guidance

LPV	Localizer Performance with Vertical Guidance
LNAV	Lateral Navigation
LNAV / VNAV	Lateral Navigation/Vertical Navigation
MAP	Missed Approach Point
MMI	Missing, Malfunction or Inoperative (components)
MDA	Minimum Descent Altitude
MEL	Minimum Equipment List
NM	Nautical Mile
NPA	Non-Precision Approach
PA	Precision Approach
PBN	Performance Based Navigation
PF	Pilot Flying
PIC	Pilot-in-Command
PM	Pilot Monitoring
POH	Pilot Operating Handbook
POI	Principal Operations Inspector
PPC	Pilot Proficiency Check
RAIM	Receiver Autonomous Integrity Monitoring
RCAP	Restricted Canada Air Pilot
RF	Radius to Fix
RFM	Rotorcraft Flight Manual
RNAV	Area Navigation
RNP	Required Navigation Performance
RNP APCH	Required Navigation Performance Approach
ROC	Required Obstacle Clearance
RVR	Runway Visual Range
SBAS	Satellite-Based Augmentation System
SCDA	Stabilized Constant Descent Angle
SCIG	Simulator Component Inoperative Guide
SIC	Second-in-Command
SID	Standard Instrument Procedure
SOP	Standard Operating Procedure
STAR	Standard Terminal Arrival
TATC	Transportation Appeal Tribunal of Canada
TEM	Threat and Error Management
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions

VPA Vertical Path Angle
WAAS Wide Area Augmentation System

Definitions

ACP (Type A) - An ACP who is authorized to conduct PPCs.

ACP (Type A - VFR Only) - An ACP who is authorized to conduct PPC/VFR flight checks only.

ACP/SFE - An ACP who gains their qualification on the basis of their EASA or UK CAA Synthetic Flight Examiner (SFE) qualification and experience.

ACP/TCE - An ACP who gains their qualification on the basis of their FAA (Part 142) Training Center Evaluator (TCE) qualification and experience.

Airborne PPC - The airborne portion of a PPC that is conducted in conjunction with the simulator portion of the PPC. This may be as a result of a simulator's level of approval and fidelity, the particulars of an approved training program or the status of the candidate. See Aircraft PPC

Aircraft Operating Manual (AOM) - A pilot operating manual, a pilot operating handbook (POH), a flight crew operating manual (FCOM) or a manual established by the operator for the use and guidance of flight crewmembers in the operations of its aircraft.

Aircraft PPC - A PPC that is conducted entirely in an aircraft. See Airborne PPC.

Approved Check Pilot (ACP) - A person holding an official authorization to conduct flight checks on behalf of the Minister of Transport pursuant to Part 1, Section 4.3(1) of the *Aeronautics Act*.

Authorized Person - A person who is delegated the authority to act as a Licensing Agent for the purpose of issuing temporary privileges (i.e., type ratings and/or instrument ratings) in the candidate's Aviation Document Booklet (ADB) or by signing the additional privileges section on the back of the candidate's temporary licence or by completing the certification of an Additional Privileges Card (Form 26-0267). Within the ACP program, ACPs (Type A) are normally delegated this privilege within a defined scope of activities.

Canadian Aviation Document (CAD) - Subject to subsection (3) of the *Aeronautics Act*, any licence, permit, accreditation, certificate or other document issued by the Minister under Part I of the *Aeronautics Act* to or with respect to any person or in respect of any aeronautical product, aerodrome, facility or service.

Certificate - Certificate means an air operator certificate in this document.

Civil Aviation Safety Inspector (CASI) - A group of inspectors with various aviation backgrounds. In this document, a CASI refers to a Transport Canada inspector who is trained and authorized to conduct flight checks and ACP monitors.

Commercial Air Service Standards (CASS) - CARs Standards published under the authority of the Minister that apply in respect of commercial air services operated by air operators. Referred to as the CARs Standard(s) in this guide.

Company Check Pilot Manual (TP 6533) - Predecessor of the Approved Check Pilot Manual (TP 6533).

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

Competency - A dimension of human performance that is used to reliably predict successful performance on the job. A competency is manifested and observed through behaviours that mobilize the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions. Definition source: ICAO Doc 9868. See Proficiency.

Competency Based Training (CBT) - Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement and the development of training to the specified performance standards. Definition is synonymous with Competency-based training and assessment (CBTA). Definition source ICAO Doc 9868.

Conduct - 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 debrief and the completion of the required documents including certification of the candidate's licence.

Contemporary Crew Resource Management (Contemporary CRM) - The current expression of crew resource management (CRM). Contemporary CRM integrates technical skill development with communications and crew coordination training and operational risk management by applying threat and error management (TEM) concepts. See CRM.

Crew Resource Management (CRM) - The effective utilization of all available resources to achieve safe and efficient operations. The objective of CRM is to enhance communications, human factors and management skills of the crew members concerned. Emphasis is placed on the non-technical aspects of crew performance. See Contemporary CRM.

Deviation - Within the 4-Point Marking Scale, a variation in precision from a specified parameter. See Error.

Error - Within the 4-Point Marking Scale, an action or inaction that leads to a variation from flight crew standards. See Deviation.

Evidence Based Training (EBT) - Training and assessment based on operational data that is characterized by developing and assessing the overall capability of a trainee across a range of core competencies rather than by measuring the performance in individual events or manoeuvres. Definition source ICAO Doc 9995.

Examiner - For the purposes of this guide, an examiner is an ACP or CASI who is conducting a PPC.

Final Approach Segment - For the purposes of this guide, is considered to be the portion of an instrument approach between the Final Approach Fix (FAF) and the Missed Approach Point.

Final Approach Track - For the purposes of this guide, is considered to be the entire portion of an instrument approach between the Initial Fix (IF) and the Missed Approach Point.

Flight Check - In this manual, refers to a PPC.

Flight Test Exercise - A manoeuvre, task or item listed in this guide.

Flight Simulation Training Device (FSTD) - A Transport Canada-approved full-flight simulator or flight training device as defined in the Aeroplane and Rotorcraft Simulator Manual (TP 9685) and certified in accordance with Section 606.03 of the CARs.

IFR PPC - A PPC conducted under instrument flight rules (IFR) that contains the required manoeuvres to issue an initial instrument rating or meet recency requirements for the holder of an instrument rating. An IFR PPC may also include a VFR portion with VFR manoeuvres.

IFR-Related Sequence - A flight test exercise that is associated with instrument flight procedures such as, but not limited to, flight planning, standard instrument departures (SIDs), holds, standard terminal arrival routes (STARs), instrument approaches and missed approaches.

Instrument Proficiency Check (IPC) - A recurring event to confirm retention of a level of proficiency that meets the standards of performance required for the issuance of an instrument rating. Refer to Advisory Circular (AC) 401-004.

Manually Flown - Controlled by the pilot without coupling the flight controls to any autopilot automation modes, as applicable to aircraft type. Aircraft stabilization systems are permitted while flying manually. Force trim can be ON and force trim adjustments made to control the aircraft. Autopilots can be ON but not coupled to any autopilot automation modes.

Minima / Minimums - The published Decision Height, Decision Altitude, or Minimum Descent Altitude, as applicable, for an instrument approach.

Non-Technical Proficiency Elements - In this guide, refers to cooperation, leadership and managerial skills, situational awareness and decision making. These elements are incorporated in the 4-Point Marking Scale.

Operator - means the holder of an air operator certificate under Part VII of the CARs or the holder of a private operator registration document under Subpart 604 of the CARs.

Pilot Flying (PF) - The term pilot flying (PF) refers to the pilot responsible for managing the current and projected flight path of the aircraft in a multi-crew crew cockpit.

Pilot-In-Command (PIC) - In relation to an aircraft, the pilot having responsibility and authority for the operation and safety of the aircraft during flight time.

Pilot Monitoring (PM) - The term pilot monitoring (PM) replaces pilot not flying (PNF). The PM is responsible for monitoring the current and future projected flight path vector of the aircraft in a multi-crew cockpit.

Pilot Not Flying (PNF) - Pilot not flying (PNF) has been replaced by pilot monitoring (PM) in this guide.

Pilot Proficiency Check (PPC) - A flight check conducted by an approved check pilot (ACP) or Civil Aviation Safety Inspector (CASI) in accordance with the appropriate PPC Schedule specified in Part VII Standards of the CARs.

Plan of Action Terminology adopted from the Federal Aviation Administration (FAA). A plan of action is similar to a scripted PPC, however is less formal. It is a document prepared by an ACP to guide the assessment of a PPC candidate. A plan of action must contain, as a minimum, a list of flight test exercises from the appropriate CARs Part VII Commercial Air Service Standard (CASS) - PPC Schedule and applicable Flight Test Guide. It may also include (as appropriate) one or more scenarios that group several required flight test exercises together.

Private Operator - The holder of a private operator registration document (PORD) issued in accordance with Subpart 604 of the CARs.

Proficiency - The degree of skill or competence that can be reliably demonstrated by an individual in the performance of a task. See Competency.

Rotorcraft Flight Manual (RFM) – The RFM is published by the aircraft manufacturer and contains information such as operating limitations, normal procedures, emergency procedures, performance data and weight and balance.

Safety Pilot - In the case of a multi-crew aircraft, a training pilot or a pilot who holds a valid PPC on the same type of aircraft on which the candidate is being checked.

Scripted PPC - 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 flight test exercises (i.e.,

manoeuvres) in accordance with the CARs Part VII Commercial Air Service Standard (CASS) – PPC Schedule. Additional information such as Air Traffic Control (ATC) communications and simulator device instructions are provided.

Second-In-Command (SIC) - In relation to an aircraft, a pilot who reports to the pilot-in-command (PIC) on an aircraft type certificated for, or in operations requiring more than one required pilot flight crewmember.

Simulator PPC - A PPC conducted in a full-flight simulator.

Special Authorization - The authorizations, conditions and limitations associated with the air operator certificate (AOC) and subject to the conditions in the operations manual. The term special authorization replaces operations specification (Ops Spec). Refer to TP 4711 for more information.

Standard Operating Procedure(s) (SOPs) - procedures established by an operator enabling the crewmembers to operate the aircraft within the limitations specified in the RFM, AOM and/or COM.

Specific Approval - An approval which is documented in the Operations Specifications. The term is interchangeable with Special Authorization. Refer to TP 4711 for more information.

Technical Proficiency Elements - In this guide, refers to knowledge and technical skills, and aircraft handling. These elements are incorporated in the 4-Point Marking Scale.

Threat and Error Management (TEM) - Threat and error management (TEM) can be considered defensive flying. It equips a pilot with skills and behaviour to recognize and avoid problems which if ignored or left unattended could result in an undesired aircraft state (UAS) and possibly lead to an incident or accident. TEM proposes that threats, errors and even undesired aircraft states (such as an altitude deviation) are everyday occurrences that pilots must manage to maintain safety. TEM is central to contemporary CRM.

Training Pilot - A pilot who meets the requirements of the applicable CARs Part VII Commercial Air Service Standard (CASS).

Transportation Appeal Tribunal of Canada (TATC) - A quasi-judicial body established in 2003 pursuant to the *Transportation Appeal Tribunal of Canada Act*. The Tribunal replaced the Civil Aviation Tribunal, which was established under Part IV of the *Aeronautics Act* in 1986.

Undesired Aircraft State (UAS) - An aircraft position, speed, attitude or configuration that results from a flight crew error, action or omission which clearly reduces safety margins.

VFR PPC - A pilot proficiency check conducted under visual flight rules (VFR). A VFR PPC is deemed to meet the requirement for VFR operations only.

General

Approved Check Pilot (ACP) Manual, TP 6533

- (1) The ACP Manual, TP 6533 is the parent document to this guide. It must be consulted regarding the conduct of a PPC.
- (2) With the exception of the 4-Point Marking Scale (Grading Matrix) and some information below, information from the ACP Manual, TP 6533 is no longer duplicated in this guide.

Aim of a PPC

- (1) The aim of a PPC is to determine that the candidate meets the knowledge and skill requirements to operate an aircraft, its systems and components under normal, abnormal and emergency conditions in a safe and competent manner, and if applicable, in accordance with the air operator's approved SOPs and policies (i.e., stabilized approach).
- (2) The aim of a PPC is also to improve standards of instruction and training through feedback to the operator or training organization of those flight test exercises, policies and/or procedures (i.e., SOPs) that are out of date, weak or commonly unsuccessful.
- (3) Consult the ACP Manual, TP 6533 for more information.

Assessment of Performance

- (1) Each flight test exercise in this guide has the following sections:
 - (a) **PPC Applicability** – Information on mandatory versus optional PPC flight test exercises (e.g., examinations, manoeuvres and procedures).
 - (b) **Aim** – The goal of the flight test exercise.
 - (c) **Description** – How the flight test exercise is to be performed.
 - (d) **Performance Criteria** – Items to be observed in order to assess a candidate's level of proficiency.
- (2) Performance Criteria provided are often general in nature and assume that the operation of the helicopter is in accordance with manufacturer specifications including recommended speeds and configurations found in a Pilot Operating Handbook (POH), Rotorcraft Flight Manual (RFM), SOPs and other approved information.
- (3) Guidance on assessment of performance provided in this document must be read in conjunction with information on principles of evaluation and the conduct of a flight check found in the ACP Manual, TP 6533.

Mandatory versus Optional Exercises and Items

(1) Pilot Proficiency Checks (PPCs)

- (a) Helicopter PPCs must be developed and delivered with reference to the Commercial Air Service Standards (CASS) and other relevant documentation.

Note: Other relevant documentation may include Special Authorizations or Specific Approvals (SA) (e.g., RNP AR APCH), and special emphasis / special flight characteristics as provided in applicable OEB / FSB / OSD reports.

(b) Mandatory Flight Test Exercises

- (i) Mandatory flight test exercises are typically those required within the CASS schedules.

(c) Optional Flight Test Exercises

Note: In this guide, the word optional implies either not required, not mandatory, or that certain assessment options exist based on the CASS PPC Schedules. Assessment options may also be listed. See associated notes for important information.

- (i) Optional flight test exercises are those not required. Optional flight test exercises are frequently associated with recurrent PPCs as opposed to initial or upgrade PPCs.

(d) Optional Performance Criteria Items

- (i) Not all performance criteria items are required to be checked to assess a flight test exercise. The ACP must determine if sufficient observations have been acquired to assess the exercise.
- (ii) Some guidance is provided in this guide where certain Performance Criteria items may be omitted. This often occurs where two candidates are undergoing a recurrent PPC in a multi-crew setting, or during a check ride in a simulator.

Flight Test Tolerances

- (1) The following flight test tolerances apply to applicable exercises: (For Steep Turn tolerances, refer to Exercise 11 - Steep Turns).

Item	Tolerances
VOR/LOC/ILS or RNAV Approaches	Remain within ½ scale deflection
NDB Approaches	Bearing must remain within +/- 5°
Assigned Headings, Tracks and Bearings	Remain within +/- 10 degrees
Altitudes during normal flight	Remain within +/- 100 feet
Altitudes during instrument approaches and altitudes associated with the intermediate or final segments	Remain at or above minimum altitudes and 0 feet below. During certain authorized SCDA procedures (e.g., CARs Exemption NCR-008-2020), momentary descent below minimums is allowed.
Altitude at MDA (final approach segment flown at a constant altitude)	Maintain accurate altitude control at an MDA with 0 feet below
Airspeed during normal flight	Remain within +/- 10 knots
Airspeed during an instrument approach	Remain within +/- 10 knots
Range variation during an Autorotation	A landing or power recovery arrival within 100 feet longitudinally and 50 feet laterally of a pre-determined location.

- (2) The above tolerances apply to flight under ideal conditions and do not consider situations that require an examiner's discretion to account for abnormal flight / emergency conditions. Refer to the 4-Point Marking Scale section in the ACP Manual.

4-Point Marking Scale (Grading Matrix)

- (1) The 4-Point Marking Scale (Grading Matrix) is from the ACP Manual, TP 6533.
 (2) Consult the ACP Manual, TP 6533 for more information regarding its use.

4-Point Marking Scale (Grading Matrix) - Page 1 of 2

		4	3	2	1
Technical Proficiencies	Knowledge and Technical Skills	<ul style="list-style-type: none"> Practical knowledge was effective. Following of SOPs, rules and regulations was effective. 	<ul style="list-style-type: none"> Practical knowledge was acceptable. Following of SOPs, rules or regulations was acceptable. 	<ul style="list-style-type: none"> Practical knowledge was poor. Following of SOPs, rules or regulations was poor. 	<ul style="list-style-type: none"> Practical knowledge was unacceptable. Following of SOPs, rules or regulations was unacceptable.
		Slight Error	Minor Error	Major Error	Critical Error / UAS
		<ul style="list-style-type: none"> Flight crew actions resulted in an aircraft position, speed, attitude <u>and</u> configuration that maintained effective safety margins. 	<ul style="list-style-type: none"> Flight crew actions or inactions resulted in an aircraft position, speed, attitude <u>or</u> configuration that maintained acceptable safety margins. 	<ul style="list-style-type: none"> Flight crew actions or inactions resulted in an aircraft position, speed, attitude <u>or</u> configuration that maintained poor (i.e., reduced) safety margins. 	<ul style="list-style-type: none"> Flight crew actions or inactions resulted in an aircraft position, speed, attitude <u>or</u> configuration that maintained unacceptable (i.e., clearly reduced) safety margins.
	Automation	Subject to grading under Knowledge and Technical Skills, and Aircraft Handling. This element may also be discussed during a Flight Check debrief based on information found in Advisory Circular (AC) 700-042 and the air operator’s own CRM training program.			
	Aircraft Handling (PF)	<ul style="list-style-type: none"> Effective compliance with regulations and aircraft limitations. 	<ul style="list-style-type: none"> Acceptable compliance with regulations and aircraft limitations. 	<ul style="list-style-type: none"> Poor compliance with regulations and/or aircraft limitations. 	<ul style="list-style-type: none"> Unacceptable compliance with regulations and/or aircraft limitations.
		Slight Deviation	Minor Deviation	Major Deviation	Critical Deviation
		<ul style="list-style-type: none"> A variation in precision that was less than or equal to a flight test exercise tolerance <u>and</u> quality of aircraft handling was effective. 	<ul style="list-style-type: none"> A variation in precision that was less than or equal to a flight test exercise tolerance <u>and</u> quality of aircraft handling was acceptable. 	<ul style="list-style-type: none"> A variation in precision that exceeded but was not more than double a flight test exercise tolerance <u>and/or</u> quality of aircraft handling was poor. 	<ul style="list-style-type: none"> A variation in precision that exceeded but was not more than double a flight test exercise tolerance <u>and/or</u> quality of aircraft handling was unacceptable. <p style="text-align: center;">- OR -</p> <ul style="list-style-type: none"> A variation in precision that was more than double a flight test exercise tolerance.

		4-Point Marking Scale (Grading Matrix) – Page 2 of 2			
		4	3	2	2 - Minimum Grade
Non-Technical Proficiencies	Situational Awareness	<ul style="list-style-type: none"> Effective system awareness Effective environmental awareness Effective awareness of time Effective anticipation of future events 	<ul style="list-style-type: none"> Acceptable system awareness Acceptable environmental awareness Acceptable awareness of time Acceptable anticipation of future events 	<ul style="list-style-type: none"> Poor system awareness Poor environmental awareness Poor awareness of time Poor anticipation of future events 	<ul style="list-style-type: none"> Unacceptable system awareness Unacceptable environmental awareness Unacceptable awareness of time Unacceptable anticipation of future events
	Cooperation	<ul style="list-style-type: none"> Effective team building and maintaining Effective consideration of others Effective support of others Effective resolving conflicts 	<ul style="list-style-type: none"> Acceptable team building and maintaining Acceptable consideration of others Acceptable support of others Acceptable resolving conflicts 	<ul style="list-style-type: none"> Poor team building and maintaining Poor consideration of others Poor support of others Poor resolving conflicts 	<ul style="list-style-type: none"> Unacceptable team building and maintaining Unacceptable consideration of others Unacceptable support of others Unacceptable resolving conflicts
	Decision-Making	<ul style="list-style-type: none"> Effective problem definition / diagnosis Effective option generation Effective risk assessment and option selection Effective outcome review 	<ul style="list-style-type: none"> Acceptable problem definition / diagnosis Acceptable option generation Acceptable risk assessment and option selection Acceptable outcome review 	<ul style="list-style-type: none"> Poor problem definition / diagnosis Poor option generation Poor risk assessment and option selection Poor outcome review 	<ul style="list-style-type: none"> Unacceptable problem definition / diagnosis Unacceptable option generation Unacceptable risk assessment and option selection Unacceptable outcome review
	Leadership and Managerial Skills	<ul style="list-style-type: none"> Effective use of authority (PIC) and/or assertiveness Effective providing and maintaining standards Effective planning and coordination Effective workload management 	<ul style="list-style-type: none"> Acceptable use of authority (PIC) and/or assertiveness Acceptable providing and maintaining standards Acceptable planning and coordination Acceptable workload management 	<ul style="list-style-type: none"> Poor use of authority (PIC) and/or assertiveness Poor providing and maintaining standards Poor planning and coordination Poor workload management 	<ul style="list-style-type: none"> Unacceptable use of authority (PIC) and/or assertiveness Unacceptable providing and maintaining standards Unacceptable planning and coordination Unacceptable workload management
	Pressure and Stress	Not subject to grading. These non-technical elements may be discussed during a Flight Check debrief based on information found in Advisory Circular (AC) 700-042 and the air operator's own CRM training program.			
	Fatigue				
	Communication				
	Workload Management	Subject to grading under Leadership and Managerial Skills (above). This element may also be discussed during a Flight Check debrief based on information found in Advisory Circular (AC) 700-042 and the air operator's own CRM training program.			
	Threat and Error Management (TEM)	Not subject to grading as a standalone item- TEM performance may be considered by an ACP where grading discretion is available. TEM performance may also be discussed during a Flight Check debrief based on information found in Advisory Circular (AC) 700-042 and the air operator's own CRM training.			

Flight Test Exercises

1. Technical Knowledge

Mandatory – All PPCs

Aim

To assess the candidate's knowledge of aircraft systems, components, limitations, normal, abnormal and emergency procedures.

Description

A candidate's technical knowledge is assessed during an oral examination. Given that candidates complete a written examination as part of their technical training, the oral examination should not be exhaustive. It should consist of a sampling of questions to confirm the candidate's technical competence and adequacy of technical training but may be adjusted as deemed necessary to distinguish between an initial and a recurrent flight check.

Questions on limitations should focus primarily on 'must-know' (memory) information that is not readily displayed on a placard or instrument marking in the cockpit. Avoid asking highly technical questions on subject matter that a pilot is not reasonably expected to know. Candidates can refer to reference material that is normally available in the cockpit to respond to questions including EFBs if applicable, except in cases where the examiner determines that it would not be practical, or there would be insufficient time, for the candidate to search for the information during flight.

The technical oral exam should consist of approximately 10 questions for each candidate and is considered successful if the candidate answers a minimum of 70 percent of the questions correctly. More questions may be appropriate for IFR PPCs. Technical Knowledge is to be graded as a one (1) if the oral exam is unsuccessful. Guidance and grading criteria for assessing Technical Knowledge and Skills is found in the Grading Matrix on Page 15.

Performance criteria

Assess the candidate's ability to adequately describe:

- a) major aircraft components / systems, including autopilot and FMS and/or other navigation systems where appropriate. Focus on areas that have the greatest practical benefit.
- b) normal (system) operating procedures;
- c) aircraft operating limitations;
- d) system malfunctions, corrective / emergency procedures;
- e) crewmember and passenger equipment (survival gear, emergency exits, evacuation procedures and crew duties); and
- f) settling with power, vortex ring state, dynamic rollover, and loss of tail rotor effectiveness (LTE) as applicable to type. These are mandatory items that must be individually addressed to ensure that candidates are aware of the causes, flight characteristics, prevention and appropriate recovery procedures.

2. Flight Planning (FLP)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to plan a flight in accordance with the applicable regulations and company policies using performance charts, weight and balance calculations and applicable weather information.

Description

For PPCs conducted in an aircraft (versus simulator), the examiner may be able to observe some or all of the pre-flight preparations to assess some elements of this exercise. This should be accompanied by questions to the extent required to ensure that flight planning competencies have been adequately assessed in accordance with the performance criteria defined below.

For PPCs conducted in a simulator, the candidate shall be presented with a sufficient sampling of oral questions and/or practical exercises to confirm the candidate has the required flight planning competencies to safely plan a flight. The completion of flight plans, log cards and weight and balance is optional for checks conducted in a simulator and "as required" for checks conducted in an aircraft, unless an initial instrument rating is being issued. The completion of a flight plan and log card is required for a PPC that involves the issuance of an initial instrument rating (aircraft and simulator).

Candidates can refer to reference material to respond to questions, except in cases where the examiner determines that a question targets basic knowledge that a candidate is reasonably expected to know without access to reference material. The candidate will be provided with applicable weather reports, charts and performance tables that are required to respond to a question.

The flight planning oral exam should consist of approximately 10 questions for each candidate and is considered successful if the candidate provides the correct answer to at least 70% of the questions.

Note: Additional questions may be required for a PPC/IFR that serves as a CARs Part IV skills test in support of a new or revised instrument rating. In addition to Performance Criteria item f., below, ACPs should consult the section titled IFR Operational Knowledge in Flight Test Guide, Instrument Rating Group 4 Helicopter, TP 15099 for additional requirements regarding basic IFR knowledge.

Performance criteria

Assess the candidate's ability to accurately:

- a) retrieve, interpret and apply the applicable weather products and NOTAMS to the flight;
- b) complete and interpret aircraft performance calculations that are required during pre-flight planning in accordance with company practices;
- c) calculate departure fuel requirements;
- d) calculate aircraft weight and balance as applicable, or orally respond to related questions;
- e) complete a flight plan and log card in accordance with governing regulations and company policies or orally respond to related questions; and
- f) demonstrate the required knowledge of all applicable regulations and company policies that should be considered during pre-flight planning, such as aerodrome operating restrictions (visibility), take-off minima, take-off alternates and destination alternates.

3. Pre-Flight (PRF)

Mandatory – All PPCs

For recurrent PPCs in a simulator see Note in the description section.

Aim

To assess the candidate's proficiency to complete the pre-flight check and determine whether the helicopter is safe for flight. Also, to show a practical knowledge of the airframe, major components, systems and applicable servicing procedures.

Description

The candidate conducts an exterior and interior inspection of the helicopter in accordance with the pre-flight check procedures stated in the RFM.

When a flight check is completed in a simulator and a helicopter is not available to complete the pre-flight check, Performance criteria can be assessed using any visual aid that is deemed suitable by the examiner.

Note: For Recurrent PPCs in a simulator the ACP may determine that conducting a visual pre-flight check is not required to assess this mandatory exercise.

The candidate must conduct an oral passenger safety briefing, except when the briefing is normally conducted by a company qualified person or approved video.

Some performance criteria may be assessed in conjunction with Exercise 1, Technical Knowledge.

Performance criteria

Assess the candidate's ability to:

- a) conduct a pre-flight check in an orderly manner in accordance with the RFM and SOPs, while explaining the purpose of inspecting an item when asked to do so by the examiner;
- b) demonstrate knowledge of how to document and report an unserviceable helicopter in accordance with company procedures;
- c) demonstrate an understanding of the MEL, if applicable;
- d) confirm that all required aircraft documents are on-board and valid;
- e) demonstrate proficiency in the completion and understanding of the aircraft journey log, including competency in assessing inspection due dates/hours, maintenance release and any applicable operating limitations;
- f) demonstrate knowledge of aircraft servicing procedures and elementary work that can be performed by the pilot;
- g) conduct a visual check or other means of verification (fuel slip or log) to confirm that the on-board fuel quantity / grade are satisfactory and that there is no fuel contamination;
- h) confirm that the safety equipment inspection dates have not expired and that equipment/baggage is secure;
- i) deliver an oral passenger safety briefing that includes the briefing items stated in the company SOPs; and
- j) check the general area around the helicopter for hazards to personnel and the helicopter.

4. Engine Start/Depart (ESD)

Mandatory – All Initial PPCs; and recurrent PPCs in an aircraft (see Note 1., in the description section.)
Optional – Recurrent PPCs in a simulator – in accordance with Note 2., in the description section.

Aim

To assess the candidate's proficiency to apply the correct engine start and systems checks procedures.

Description

The candidate is required to demonstrate the proper use of checklists and procedures for pre-start, engine(s) start, rotor engagement, powering-up helicopter equipment, systems checks and the set-up and verification of radio and navigation equipment. This exercise ends when the helicopter begins to move under its own power.

Note 1: For a two-crew PPC that is an initial or involves the issuance of a type rating, the full start procedure is only required for the first PPC candidate. The examiner has the discretion to stipulate whether the start is to be treated as the first or second start of the day. The PPC for the second candidate can commence with engines running and systems checks considered complete unless the ACP or candidate requests a full start procedure.

Note 2: For a recurrent PPC in a simulator, the PPC can commence with the engines running ("quick start") unless the examiner or candidate requests a full-start procedure. The use of quick start is not permitted during a PPC that is an initial or involves the issuance of a type rating. If a quick start is carried out, it is permissible to conduct aircraft and systems checks based on the assumption that the start is the second of the day. When using quick start, pilot(s) should be reminded of their responsibility to ensure that relevant before-start checklist items are not overlooked.

Performance criteria

Assess the candidate's ability to:

- a) ensure ground safety procedures are followed during the before-start, start and after-start;
- b) ensure the appropriate use of ground crew personnel during the start procedures;
- c) accurately complete all items of the start procedures, systems checks and navigation set-up and verification by systematically following the approved checklist items for the before-start, start and after-start phases;
- d) ensure that all systems are within the acceptable operating range and the helicopter is safe for flight;
- e) use the challenge-and-response (or other approved) method with the other crewmember(s), where applicable, to complete checklist procedures;
- f) divide attention inside and outside of the cockpit;
- g) coordinate with ground crew and ensure adequate clearance prior to moving any devices, such as door, hatches and flight control surfaces;
- h) complete the before-taxi checks and any applicable hover/power checks prior to commencing taxi; and
- i) obtain and correctly interpret applicable ATC clearances.

5. Taxi-Out/Hover (TXO)

Mandatory – All PPCs (with relief for a two-crew PPC, as per the Note in the description section.)

Aim

To assess the candidate's proficiency to conduct hover manoeuvres and taxi on or above the ground to the point of departure.

This exercise can be combined with an Engine Failure in the hover (Exercise 23), and Sloping Ground (Exercise 18).

Description

Assessment of the taxi begins when the helicopter moves under its own power and ends when the helicopter is in position for departure. The candidate will taxi the helicopter to the point of departure in accordance with ATC or examiner instructions.

Hover manoeuvres will be assessed during the taxi as applicable and throughout the PPC whenever the candidate is required to maintain a stationary hover, carry out hover turns or manoeuvre the helicopter sideward or rearward. The examiner has the flexibility to scale hover manoeuvres to the extent required, in or out of wind, to ascertain that the candidate has the required level of competence.

Note: For a two-crew PPC in a simulator, the full taxi procedure must be completed for the first candidate. For the second candidate, the helicopter can be pre-positioned in any suitable location to commence the PPC, including the threshold of a runway. For this option, remind the crew of their responsibility to complete the appropriate checklists to ensure that all helicopter systems are properly configured prior to departure.

For an IFR PPC in a simulator, a reduced or low visibility taxi must be conducted, as applicable based on the operator's authority. For a two-crew PPC, the above-stated flexibility applies, meaning the reduced or low visibility taxi procedure must be completed for the first candidate. There is no requirement to demonstrate a reduced or low visibility taxi during the second candidate's PPC unless the examiner determines there is value in doing so.

For a PPC that is an initial or includes the issuance of a type rating, a candidate must be assessed as the PF during a taxi procedure. This assessment can occur during the taxi-out or during the taxi-in (Ground Arrival).

Performance criteria

Assess the candidate's ability to:

- a) demonstrate safe taxi procedures appropriate to the helicopter and mindful of environmental conditions;
- b) maintain the desired track and safe taxi height (as applicable) and speed;
- c) maintain stable control and safe turn rates during all hover maneuvers;
- d) maintain proper spacing on other aircraft, obstructions, and persons;
- e) accomplish the applicable checklist items and any applicable instrument checks, while maintaining adequate situational awareness (radio and visual);
- f) comply with instructions/clearances issued by ATC;
- g) observe low visibility taxi routes, runway hold lines, localizer and glide slope critical areas and other surface control markings and lighting; and
- h) comply with any applicable sterile cockpit procedures and CRM practices that are stated in company SOPs.

6. Take-Off (TOF)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to conduct a VFR or IFR take-off.

Description

The assessment of the take-off ends when the helicopter has been placed in a stable climb, (with all immediate emergency actions completed, if applicable), at an altitude no less than 35 feet above the point of departure, or upon completion of a rejected takeoff, if applicable.

The following sequences must be completed for this exercise. The examiner can combine any of the sequences to the extent possible during the PPC:

- a) a VFR or IFR take-off performed in accordance with the RFM with a minimum crosswind component of 10 knots (winds permitting);
- b) for an IFR PPC in a simulator, a take-off must be demonstrated at the lower of 1200 RVR or the minimum visibility approved for the operator;
- c) for an IFR PPC, the helicopter must be in simulated or actual IMC upon reaching an altitude of 200 feet AAE; and
- d) for a multi-engine helicopter, a take-off with continued flight must be demonstrated as follows:
 - i) Simulator: With an engine failure at CDP plus 10 knots; and
 - ii) Helicopter: With a simulated engine failure at a safe altitude and speed.

Performance criteria

Assess the candidate's ability to:

- a) select the most appropriate runway or departure point and direction, taking into consideration environmental and performance factors and any other applicable safety considerations;
- b) accurately complete before take-off checklists and brief other crew member(s) on the departure;
- c) complete all necessary radio calls using the appropriate terminology and comply with any applicable ATC instructions and clearances (and noise abatement / wake turbulence restrictions);
- d) lift into the hover with no significant drift or yaw, and confirm that power, centre of gravity, and control responses are as expected and within limits;
- e) manage power, speed and height appropriately throughout the initial take-off phase in accordance with the RFM departure profile / height and velocity chart and power limitations;
- f) apply appropriate handling techniques to maintain a stable departure profile that adheres to the intended departure track/path;
- g) maintain heading, track and airspeed within allowable tolerances and in compliance with any applicable ATC clearance or instruction;
- h) respond appropriately to any abnormal situation(s) encountered during take-off;
- i) maintain the minimum required rate of climb for safe flight / ATC compliance; and
- j) comply with company SOPs, including the correct use of 'standard calls'.

Note: The description and performance criteria for engine-failure during take-off is addressed in Exercise 23 (Engine Failures) in this guide.

7. Rejected Take-Off (RTO)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to recognize an abnormal situation necessitating a rejected takeoff and safely execute the manoeuvre.

Description

For multi-engined helicopters, a simulated malfunction is to be introduced just prior to CDP to prompt the candidate to carry out a rejected take-off, where weather conditions do not impact flight safety. For an IFR PPC, when conducted in a simulator the manoeuvre must be carried out at the minimum visibility approved for the operator.

For VFR departures, this exercise should be conducted during the departure from a confined area or a similarly challenging departure scenario, or from a runway or open area that requires a rapid deceleration.

Given that the purpose of this exercise is to assess a rejected take-off, the requirement to carry out the actions associated with the malfunction after the helicopter has landed is optional. It is sufficient to have the candidate verbally explain the follow-on actions that would be carried out.

Performance criteria

Assess the candidate's ability to:

- a) demonstrate adequate knowledge of the technique, procedures and safety considerations to accomplish a rejected takeoff after powerplant / system(s) failure/warnings;
- b) complete immediate emergency checklist actions that may be required;
- c) maintain stable control of the helicopter;
- d) manage power, speed, descent rate and helicopter alignment in a manner that facilitates a safe landing on the desired landing area with minimal drift or yaw;
- e) demonstrate accurate control of the helicopter after landing, which may require the application of brakes, power or cyclic inputs to maintain control;
- f) comply with company SOPs, including the correct use of 'standard calls'; and
- g) communicate with the other crewmember(s) / ATC as required, ensuring the event is brought to a safe conclusion.

8-9. Initial Climb (ICL) / Enroute Climb (ECL)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to conduct an initial and enroute climb.

Description

For this exercise, climbs up to 1000 feet AAE are assessed as initial climbs and climbs above this altitude are assessed as enroute climbs. If there is no enroute climb during the PPC, which may be the case for a VFR PPC, do not grade the enroute climb on the FTR.

For an IFR PPC in an aircraft that involves the use of automation modes during a departure, the candidate must:

- a) demonstrate competency in the use of the autopilot / coupling to automation modes during the departure in accordance with the procedures specified in the company SOPs and/or RFM. This objective will be met once the aircraft is coupled to automation modes and has reached an altitude of 1000 feet AAE or higher; and
- b) demonstrate the ability to manually fly a climb sequence that is no less than 1000 feet, which terminates with a manually flown level-off at a planned altitude.

The assessment of manual flying must be conducted entirely in simulated or actual IMC and can be accomplished by introducing a malfunction that prevents the use of the coupled modes, or by asking the candidate to manually fly any climb segment during the PPC.

Performance criteria

Assess the candidate's ability to:

- a) transition smoothly and accurately from VMC to IMC, where applicable;
- b) accurately complete the after take-off checklist and ensure the helicopter is in the proper configuration with ancillary systems activated, as applicable (such as anti-ice systems);
- c) complete all necessary radio calls using appropriate terminology and comply with any applicable ATC instructions and clearances (including noise abatement restrictions);
- d) apply appropriate handling techniques, and select any applicable automation and navigation selections to maintain a stable and accurate climb profile that adheres to the intended track/path;
- e) maintain heading, track, airspeed and altitudes within allowable flight check tolerances and in compliance with any applicable ATC clearance;
- f) demonstrate stable aircraft control while manually flying the helicopter, remaining within allowable flight check tolerances for heading, track, airspeed and altitudes;
- g) manage power appropriately throughout the climb in accordance with the SOPs and RFM power limitations;
- h) monitor instrumentation, systems and automation and respond appropriately to any faults or abnormal situation(s);
- i) maintain the minimum required rate of climb for safe flight / ATC compliance;
- j) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director, FMS, or GPS; and
- k) comply with company SOPs, including the correct use of 'standard calls'.

10. Cruise (CRZ)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to establish the helicopter in cruise flight with the proper configuration, power and navigation settings.

Description

For a VFR PPC that is conducted no higher than circuit altitude, 'cruise' flight is considered to be level-flight at circuit altitude.

For an IFR PPC, the cruise phase of an IFR PPC must be of a sufficient duration to allow the examiner to adequately assess enroute procedures.

Performance criteria

Assess the candidate's ability to:

- a) level-off within allowable tolerances at the planned altitude for cruise flight;
- b) complete required radio calls using appropriate terminology and comply with any applicable ATC instructions and clearances;
- c) accurately complete the cruise checklist and ensure the helicopter is in the proper configuration with any required ancillary systems activated (such as anti-ice systems);
- d) select and monitor automation and navigation systems/sources as applicable to adhere to the intended track/path and enroute procedures;
- e) intercept all applicable tracks, radials and bearings in a timely manner;
- f) maintain heading, track, airspeed and altitudes within allowable flight check tolerances and in compliance with any applicable ATC clearance;
- g) if applicable, demonstrate stable aircraft control while manually flying the helicopter, remaining within allowable flight check tolerances for heading, track, airspeed and altitudes;
- h) manage power appropriately in accordance with the SOPs and RFM power limitations;
- i) monitor instrumentation, systems and automation and respond appropriately to any abnormal situation(s);
- j) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director and FMS, as applicable;
- k) comply with company SOPs, including the correct use of 'standard calls'; and
- l) assess performance, weather and any other situational factors that may affect ETA, fuel management/range, arrival at destination, etc. and demonstrate appropriate decision making.

11. Steep Turns

Mandatory – Initial PPCs, and upgrade PPCs.

Optional – Recurrent PPCs (see the Note in the description section).

Aim

To assess the candidate's proficiency to perform level, coordinated steep turns.

Description

VFR PPC - Alternative procedure: Except in a mountainous environment, VFR helicopter pilots typically do not turn by use of an attitude indicator. Steep turns are conducted as needed for operational requirements, predominantly with reference to external references, such as during a reconnaissance for confined area assessments or other similar operations. Accordingly, VFR proficiency in steep turns may be demonstrated by combining them with a confined area approach exercise and assessing the candidate's ability to keep the landing site in view during the reconnaissance evaluation, while maintaining a constant altitude and airspeed and adjusting the angle of bank to compensate for drift.

VFR and IFR PPCs – Standard procedure: At an operationally safe altitude, the candidate will execute at least one steep turn of approximately 30°. The heading change for each turn must be at least 180° and no more than 360°. The examiner will specify the altitude, airspeed and initial heading before each turn. The turns are to be manually flown and executed primarily through the use of visual references in VMC for a VFR PPC and flight instruments in actual or simulated IMC for an IFR PPC.

Although combining exercises are permitted for efficiency, it may not be appropriate to combine this exercise with others where the angle of bank, and/or the level of automation used, is different between exercises.

Note: For recurrent PPCs, steep turns are optional if they were completed during training to the standard defined below.

Performance criteria

Assess the candidate's ability to:

- a) exercise good CRM by briefing and leveraging the assistance of the PM (as applicable) to provide calls related to bank, airspeed, heading and power to facilitate aircraft handling;
- b) smoothly roll into the turn and accurately establish the target bank angle and airspeed;
- c) divide attention appropriately between outside visual references and flight instruments for a turn in VMC;
- d) divide attention appropriately between flight instruments for a turn in IMC;
- e) maintain as specified:
 - i) angle of bank within ± 10 degrees (not applicable if compensating for drift during a reconnaissance);
 - ii) altitude within ± 200 feet;
 - iii) airspeed within ± 10 knots.
- f) smoothly roll out of the turn on the desired heading (± 15 degrees), airspeed and altitude; and
- g) demonstrate stable control of the helicopter.

12. Holding

Mandatory – IFR PPC

Aim

To assess the candidate's proficiency to establish the aircraft in a holding pattern using an actual or simulated clearance.

Description

Based on a hold clearance, the candidate must select a suitable entry procedure for the hold and establish the helicopter in the appropriate pattern. The candidate must demonstrate adequate situational awareness of holding endurance, to include consideration of fuel required to destination and alternate (as applicable). The examiner can validate this by asking the candidate to provide an estimate of the maximum time that the helicopter can remain in the hold.

For a two-crew PPC the full hold procedure must be completed by at least one candidate. For the second candidate the hold procedure can be abbreviated at the examiner's discretion once the candidate has completed the following minimum actions:

- a) programmed the hold in the FMS or GPS unit; and
- b) verbalized the appropriate hold entry, direction and sector.

Performance criteria

Assess the candidate's ability to:

- a) properly interpret and read back the hold clearance;
- b) select and identify the navigation aids associated with the hold, as applicable;
- c) determine the appropriate entry procedure and brief the PM on the hold, as applicable;
- d) accurately program the GPS or FMS for the hold, as applicable;
- e) enter the hold appropriately and establish the airspeed and configuration specified in SOPs;
- f) comply with ATC reporting requirements;
- g) apply the proper timing or distance criteria, as applicable, and wind-drift correction to maintain the proper holding pattern;
- h) maintain airspeed, altitude, headings/tracks/course within the applicable flight test tolerances;
- i) demonstrate adequate situational awareness of endurance in the hold, to include consideration of fuel required to destination and alternate (as applicable);
- j) conduct the necessary checklist(s), preparation and briefing during the hold, as applicable, to facilitate the transition to the next segment of flight upon leaving the hold (i.e., set up and brief an instrument approach procedure, if applicable); and
- k) take appropriate action when cleared to leave the hold or seek further clearance at the Expect Further Clearance time.

13. Descent (DST)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to complete the descent segment of a visual or instrument arrival at the planned destination.

Description

The candidate will complete the descent procedures and profile associated with a VFR or IFR arrival, as applicable, at the planned destination / landing zone.

For a VFR PPC there is less to assess in the descent phase in comparison to an IFR PPC and some items in the performance criteria will not be applicable. For a VFR descent, where possible the approach profile should have appropriate speeds versus altitudes to facilitate autorotation in case of engine failure.

Performance criteria

Assess the candidate's ability to:

- a) appropriately plan the descent taking into consideration any relevant factors such as weather, company procedures, distance to go, desired descent rate, speed, fuel, noise abatement, VFR or IFR charts/routings (STARS), altitude restrictions, ATC direction/routings, etc.;
- b) interpret and appropriately apply applicable information contained in FLIPs (VFR or IFR publications / charts);
- c) tune, identify and monitor applicable navigation aids associated with the proposed descent/arrival phase;
- d) accurately complete the applicable checklist(s) and ensure the helicopter is in the proper configuration with ancillary systems activated, as applicable (such as anti-ice systems);
- e) complete required radio calls using appropriate terminology and comply with applicable ATC instructions and clearances;
- f) apply the appropriate handling techniques and select any applicable automation and navigation selections to maintain a stable and accurate descent profile that adheres to the intended track/path and ATC clearance(s);
- g) maintain heading, track, airspeed and altitudes within allowable flight check tolerances and in compliance with any applicable ATC clearance;
- h) monitor instrumentation, systems and automation and respond appropriately to any faults or abnormal situation(s);
- i) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director, FMS, or GPS; and
- j) comply with company SOPs, including the correct use of 'standard calls'.

15. Approach (APR)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to conduct a VFR or instrument approach to a runway or landing site.

Description

The following minimum sequences must be completed for this exercise. The examiner can combine any sequences to the extent possible during the PPC.

- a) For a VFR PPC:
 - i) a steep VFR approach to a hover or landing on a runway or other landing site. The approach can be combined with another manoeuvre, such as confined area or sloping ground; and
 - ii) for multi-engine helicopters, an approach with one engine inoperative for the entire final approach segment until landing on a runway or other landing site;
 - iii) if an air operator's Company Operations Manual (COM) requires the use of CAT A procedures during flight operations, these procedures must be checked during the PPC and may be done in conjunction with Exercise 17 – Confined Area.
- b) For an IFR PPC:
 - i) two instrument approaches that are published in the CAP, RCAP or equivalent foreign publication, or that are approved company approach procedures, flown to the lower of the published or company approved minima in simulated or actual IMC. Where practicable, a precision and non-precision approach will be conducted, and with a minimum crosswind component of 10 knots (winds permitting);
 - ii) simulated or actual weather is to be at or below minima, as applicable, for all instrument approaches;
 - iii) one of the instrument approaches must be manually flown to the lower of the published or company approved minima in simulated or actual IMC. Manual flying shall commence no later than the point the helicopter is established on the final track. The continuation of manual flying until the helicopter is established in a missed approach may be required as per Exercise 16 – Go Around,
 - iv) it is permissible to manually fly an approach associated with an operator's approval (Special Authorization or Exemption), such as ILS 100' DH / RVR 1200 and ILS 100' DH / RVR 600, to meet the requirement to manually fly an instrument approach;
 - v) reference to the Flight Director Command Bars is permissible during a manually flown approach;
 - vi) for multi-engine helicopters, an approach with one engine inoperative for the entire final approach segment until landing;
 - vii) if an air operator's COM includes the use of CAT A procedures during flight operations, these procedures must be checked during the PPC and may be done in conjunction with Exercise 17 – Confined Area;
 - viii) at least one missed approach procedure and one landing after transition from an instrument approach procedure;
 - ix) the inclusion of a VFR approach during an IFR PPC is optional; and

- x) a precision approach is mandatory during an Initial Instrument Rating flight test.

Note: The description and performance criteria for engine failure during the approach is addressed in Exercise 23 (Engine Failures) in this guide.

Performance criteria

Assess the candidate's ability to:

For a VFR approach:

- a) appropriately plan the approach taking into consideration any relevant factors such as wind, obstacles, traffic, obscuring phenomena in the landing zone, noise abatement and ATC direction/routings;
- b) accurately complete the applicable checklist, provide an approach briefing (if applicable), and ensure the helicopter is in the proper configuration for landing;
- c) complete required radio calls using appropriate terminology and comply with applicable ATC instructions and clearances;
- d) apply appropriate handling techniques to maintain coordinated flight and a constant approach angle and rate of closure, making timely corrections as required;
- e) for single engine helicopters demonstrate an awareness and applicability of the height/velocity diagram;
- f) avoid situations that could result in "vortex ring state" or "settling with power";
- g) monitor instrumentation and systems, and respond appropriately to any faults or abnormal situation(s); and
- h) comply with company SOPs, including the correct use of 'standard calls' as applicable.

For a non-precision instrument approach

- a) for a GNSS/RNAV approach, load or confirm the correct loading of the approach from the database, verify approach waypoints, and conduct a RAIM check (as applicable);
- b) for other than a GNSS/RNAV approach, tune, identify and monitor the operational status of the applicable ground and aircraft navigation equipment for the approach procedure;
- c) conduct an approach briefing (as applicable) to adequately prepare the PM for the approach, to include consideration of NOTAMS, temperature corrections to MDA, MDA incursions for an SCDA, and crew actions at minima;
- d) accurately complete the applicable checklist(s) and ensure the helicopter is in the proper configuration with ancillary systems appropriately configured, as applicable (such as gear, anti-ice systems);
- e) correctly interpret and fly the instrument approach in accordance with the applicable approach chart;
- f) complete required radio calls using appropriate terminology and comply with applicable ATC instructions and clearances;
- g) comply with applicable stabilized approach criteria specified in SOPs;
- h) in the case of an SCDA, compute a stable approach path / optimum descent angle and fly a continuous descent without a level off and without going below the minimum specified altitudes at any fix between the FAF and MAP;

- i) maintain heading, track, airspeed and altitudes within allowable flight check tolerances and in compliance with the approach procedure and any applicable ATC clearance;
- j) monitor instrumentation, systems and automation and respond appropriately to any faults or abnormal situation(s), including a RAIM alert;
- k) respond appropriately to any instances that RNP is not being met for a GNSS/RNAV approach, such as the failure of 'approach' mode to activate prior to the FAWP;
- l) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director, FMS, or GPS;
- m) comply with company SOPs, including the correct use of 'standard calls';
- n) accurately maintain the MDA and track to the 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, or, in the case of an SCDA, maintain an appropriate vertical profile to a point in space which will permit a safe landing with minimal manoeuvring;
- o) initiate the missed approach procedure if the required visual references for the intended runway are not obtained at the MAP; and
- p) execute a normal landing if the required visual references are obtained.

Note 1: 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 charted visibility on the approach chart. 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, except in the circumstances described below in Note 2.

Note 2: 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 an SCDA approach. This exemption is subject to the following conditions:

- i. the pilot-in-command will conduct a final approach with an SCDA from the final approach fix to a normal landing runway threshold crossing height of 50 feet;
- ii. the pilot-in-command will initiate a missed approach upon reaching the earliest of either the MDA, or the MAP, or the required visual reference necessary to continue to land has not been established;
- iii. an SCDA approach will not be conducted on procedures requiring remote altimeter setting correction;
- iv. 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
- v. 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.

An air operator can elect to implement SCDA procedures without applying the above exemption. Without use of this exemption, flight crews must add an appropriate altitude margin to MDA if using it as a DA during an SCDA profile in order to avoid flying below MDA in the event of a missed approach.

For a precision instrument approach (ILS or LPV)

- a) tune, identify and monitor the operational status of the applicable ground and aircraft navigation equipment for the approach procedure;
- b) for an LPV approach, load or confirm the correct loading of the approach from the database, verify approach accuracy and conduct a RAIM check (as applicable);
- c) conduct an approach briefing (as applicable) to adequately prepare the PM for the approach, to include consideration of NOTAMS, temperature corrections to DH / DA, and crew actions at minima;
- d) accurately complete the applicable checklist(s) and ensure the helicopter is in the proper configuration with ancillary systems appropriately configured (such as gear, anti-ice systems);
- e) correctly interpret and fly the instrument approach in accordance with the applicable approach chart;
- f) complete required radio calls using appropriate terminology and comply with applicable ATC instructions and clearances;
- g) comply with applicable stabilized approach criteria specified in SOPs;
- h) maintain track, airspeed and altitudes within allowable flight check tolerances and in compliance with the approach procedure and any applicable ATC clearance;
- i) monitor instrumentation, systems and automation and respond appropriately to any faults or abnormal situation(s), including a RAIM alert;
- j) respond appropriately to any instances that RNP is not being met during an LPV approach, such as the failure of 'approach' mode to activate prior to the FAWP;
- k) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director, FMS, or GPS;
- l) comply with company SOPs, including the correct use of 'standard calls';
- m) maintain a stabilized descent to the DH / DA to permit completion of the visual portion of the approach and landing with minimal maneuvering;
- n) initiate the missed approach procedure upon reaching the DH / DA if the required visual references for the intended runway are not obtained; and
- o) execute a normal landing if the required visual references are obtained.

Note: All information pertaining to approaches is found in Flight Test Exercise 15. This corresponds with the Transport Canada Online PPC Flight Test Report (previously form 26-0279). Flight Test Exercise 14 is not currently used.

16. Go-Around (GOA)

Mandatory – IFR PPC

Aim

To assess the candidate's proficiency to carry out a successful instrument missed approach procedure.

Description

Following an instrument approach, the candidate will conduct a missed approach from any point on the final approach segment prior to landing. The candidate must follow the published or amended missed approach procedure.

At least one missed approach procedure must be conducted during an IFR PPC.

At least one missed approach must be manually flown, unless it was completed during training to the standard defined below.

Performance criteria

Assess the candidate's ability to:

- a) promptly initiate the missed approach at minimums by applying sufficient power to establish the required rate of climb;
- b) correctly interpret and fly the missed approach in accordance with the applicable procedure and any applicable ATC instructions and clearances;
- c) complete required radio calls and seek further clearance(s), as applicable, using appropriate terminology;
- d) accurately complete the applicable checklist and ensure the helicopter is in the proper configuration with ancillary systems appropriately configured, (such as gear, anti-ice systems);
- e) maintain track, airspeed and altitudes within allowable flight check tolerances and in compliance with the missed approach procedure and applicable ATC clearances;
- f) If a manually flown missed approach is conducted, coupled modes of automation may be restored as directed by the ACP once they are satisfied that the go around has been initiated and adhered to with regard to specified tolerances;
- g) monitor instrumentation, systems and automation and respond appropriately to any faults or abnormal situation(s); and
- h) demonstrate competency in the use of any systems related to aircraft automation, such as autopilot(s), Flight Director, FMS, or GPS.

17. Confined Area

Mandatory – VFR and IFR PPCs

Aim

To assess the candidate's proficiency to safely conduct an approach to a landing in a confined area that has limited maneuverability.

Note: For scripted PPCs in a simulator, if the operator conducts medevac operations and/or is authorized for RCAP approaches to specific hospitals, or helipads, the PPC should include an approach and a missed approach to a defined area (e.g., button of a currently unused runway, or offshore helipad) with an approximate size of $1.5 \times D$, where D is the largest overall dimension of the helicopter when rotor(s) are turning measured from the most forward position of the main rotor tip path plane to the most rearward position of the tail rotor tip path plane or helicopter structure.

Where the operations include unprepared site landings such as for purposes of medevac pickups, those procedures should also be tested for competence.

Either of these would fulfill the required demonstration of confined area technique and could be alternated on an annual basis.

Description

The examiner will select a confined area or ask the candidate to choose an appropriate area that offers limited maneuverability and is suitable for landing (or low hover). The examiner must be satisfied that the size of the selected area is in compliance with the air operator's policy and is suitable to meet the intent of the exercise.

A steep approach could be included as part of this maneuver to satisfy flight test exercise 14 (Approach) in this guide. Exercises 18 (Sloping Ground) and 7 (Rejected Take-off) can also be included, if appropriate, during the confined area exercise.

If an air operator's COM requires the use of CAT A procedures during flight operations, these procedures must be checked during the PPC.

To simulate a desired take-off weight, the examiner may choose to specify a maximum available power for the departure from the confined area.

Performance criteria

Assess the candidate's ability to:

- a) conduct a reconnaissance of the area while maintaining an appropriate altitude, airspeed and lookout for traffic;
- b) select a suitable approach path and landing spot, taking into consideration the size, shape, slope, and surface of the area, obstacles, direction of the wind and sun and available areas for undershoot / overshoot;
- c) assess the power requirements prior to entering the confined area to determine that sufficient power is available to land and take-off;
- d) maintain an appropriate airspeed, approach angle, rate of closure and rate of descent during the approach;
- e) avoiding situations that could lead to vortex ring state, settling with power and loss of tail-rotor effectiveness;
- f) maintain appropriate obstacle clearance during the approach/landing;

- g) land (or hover) at the desired/briefed location, applying proper techniques as applicable to counter obscuring phenomenon such as sand or snow;
- h) demonstrate awareness of the applicable height / velocity envelope; and
- i) prior to departure, select a suitable route, complete required checks/briefing, and manage power appropriately during the departure, remaining clear of obstacles.

18. Sloping Ground

Mandatory - All PPCs performed in the aircraft and in qualified simulators as per the Note in the description section

Aim

To assess the candidate's proficiency to land and takeoff on a sloped surface.

Description

The examiner may choose an appropriate landing area or ask the candidate to select a suitable area. This exercise may be conducted in conjunction with exercise 17, Confined Area or any other exercise that involves a take-off and landing.

Note: Simulators may or may not be approved or capable of providing realistic sloping ground scenarios. The ACP must verify simulator capability and approval status before undertaking this exercise. Where simulators are capable, slopes can be introduced on any surface for the purpose of the exercise.

Performance criteria

Assess the candidate's ability to:

- a) determine that the slope gradient is within the helicopter's landing limitations;
- b) land and take-off with negligible drift or yaw while maintaining clear of obstacles;
- c) keep the main rotor disk level, as appropriate to type, while lowering the helicopter to the ground after initial contact;
- d) keep the tail clear of obstacles and the ground;
- e) avoid exceeding the maximum roll and pitch limitations stated in the RFM;
- f) perform an effective seating check;
- g) keep the main rotor disk level, as appropriate to type, while applying power to take-off until the helicopter breaks contact with the ground; and
- h) demonstrate slow and deliberate control movements throughout the manoeuvre, avoiding abrupt handling that could lead to dynamic rollover.

19. Landing (LND)

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to conduct a landing following a VFR or IFR flight.

Description

The following sequences must be completed for this exercise. The examiner can combine any of the sequences to the extent possible during the PPC:

- a) a landing following a visual approach or instrument approach with a minimum crosswind component of 10 knots (where practicable and winds permitting). A VFR landing can be combined with a confined area or sloping ground manoeuvre;
- b) for an IFR PPC, a visual transition to landing from an instrument approach and, where prevailing conditions prevent a landing, an approach to a point where a landing could have been made. In a simulator the weather must be at minima for the approach flown.
- c) for multi-engine helicopters, a landing with one engine inoperative (simulated or actual); and
- d) where an operator has authority to conduct instrument approaches to lower than the published minima, the candidate will demonstrate a landing in a simulator with weather at the lowest limit applicable to the candidate's crew position.

Performance criteria

Assess the candidate's ability to:

- a) adequately anticipate and mitigate risks associated with turbulence, wind shear, crosswinds, whiteout or brownout conditions, and unfavourable runway or landing surface conditions;
- b) configure the helicopter appropriately for landing, with any applicable checklist items completed;
- c) complete a smooth transition to visual flight from minima when the required visual references for landing are obtained;
- d) execute the short-final segment of the approach and landing in accordance with the profile and procedures stated in the RFM and SOPs;
- e) touchdown near or on the intended landing spot with negligible drift or yaw;
- f) maintain the desired directional control during the roll-out after landing;
- g) perform a seating check as appropriate to the type of helicopter and landing surface; and
- h) complete after-landing actions, checklist items and radio calls as applicable.

Note: The description and performance criteria for engine-failure during landing is addressed in Exercise 23 (Engine Failures) in this guide.

20. Ground Arrival

Optional – All PPCs

Aim

To assess the candidate's proficiency to conduct taxi, arrival and engine shutdown.

Description

Although this is an optional exercise, it must be assessed if a ground arrival is carried out during the PPC, which will normally be the case whenever a PPC is conducted in the helicopter (versus simulator). Assessment of the ground arrival includes the taxi to the final parking spot and completing shut-down procedures.

For a PPC that is an initial or includes the issuance of a type rating, a candidate must be assessed as the PF during a taxi procedure. This assessment can occur during the Taxi-Out / Hover exercise or during the taxi-in portion of the Ground Arrival exercise.

Performance criteria

Assess the candidate's ability to:

- a) complete checklist items and radio calls as applicable;
- b) taxi in a controlled manner in accordance with the procedures in the RFM and SOPs;
- c) taxi in accordance with the applicable ATC clearance, remaining on approved taxiways without any incursions on runways or areas not approved for taxi;
- d) remain vigilant, avoiding obstacles and traffic and ensuring that rotor downwash (as applicable) does not cause damage or harm to persons or property;
- e) complete engine shutdown procedures in accordance with the RFM and company SOPs.

21. Flight Close (FLC)

Optional – All PPCs

Aim

To assess the candidate's proficiency to complete the applicable post-flight administrative procedures.

Description

Although this is an optional exercise, it must be assessed if any elements of the flight close exercise are conducted during the PPC. Assessment includes the closure of flight plans / itinerary, recording of flight time and aircraft defects in the aircraft journey log and any other relevant flight close procedures that are specified by the company that are observed by the examiner.

The lowest grade that can be assigned to this flight test exercise is "2".

Performance criteria

Assess the candidate's ability to:

- a) comply with the procedures and protocols that apply to the closure of a flight plan / itinerary;
- b) accurately record flight time(s) and defects in the aircraft journey log; and
- c) complete any other relevant flight close procedure that is specified by the company in the COM, SOPs or company document.

22. Pilot Monitoring (PM) Duties

Mandatory – Two-crew PPCs

Aim

To assess the candidate's proficiency to demonstrate competency in the conduct of pilot monitoring (PM) duties.

Description

Each pilot in a multi-crew environment will demonstrate the ability to carry out pilot monitoring (PM) duties in accordance with applicable SOPs and COM.

PM proficiency is evaluated during normal, abnormal and/or emergency situations.

Seat Assignments – In rare cases, pilot candidates may be required to perform PM duties from a seat position not normally occupied. This occurs when two pilot-in-command (PIC) or second-in-command (SIC) candidates are paired. In these situations, enough training must have been provided to allow the candidate to be seat familiar in the role of PM.

Single Pilot Candidates in a Multi-Crew Environment - In the case of a single pilot candidate in a multi-crew environment, the demonstration of PM duties must be of sufficient duration to enable an assessment of overall PM proficiency. As a minimum, PM assessments of single pilot candidates in a multi-crew environment must include the following:

- a) A departure;
- b) An initial climb;
- c) An abnormal or emergency event requiring good crew coordination and the use of a checklist;
- d) An approach (i.e., IFR during a PPC/IFR or VFR during a PPC/VFR); and
- e) A landing.

Performance criteria

Assess the candidate's ability to:

- a) complete PM duties in accordance with the COM and/or SOPs;
- b) complete duties assigned by the PF;
- c) demonstrate competency in the use of applicable reference material in the cockpit, such as checklists, ECL, FLIPs, and EFB;
- d) demonstrate competency in the use of helicopter systems, such as programming an FMS or GPS, selecting/programming radios, selection of automation, etc.;
- e) demonstrate knowledge of standard calls;
- f) adhere to sterile cockpit procedures where applicable;
- g) where assigned, carry out timely communication with ATC or other agencies as applicable, using appropriate terminology and radio procedures;
- h) contribute to Threat and Error Management by demonstrating an ongoing awareness of the status of automation, relevant aircraft systems, flight instruments, environmental factors, or any other relevant factors and advise the PF of any concerns; and
- i) complete all duties in a manner that enhances CRM.

23. Engine Failures

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to maintain control of the aircraft and carry out the appropriate engine failure procedures.

Description

For a single engine helicopter, an engine failure to an acceptable surface must be conducted in the hover or hover taxi.

For multi-engine helicopters, an engine failure must be conducted (with at least one remaining engine in operation) during a take-off, approach and landing.

Performance criteria

Assess the candidate's ability to:

- a) Single engine:
 - i) recognize an engine failure has occurred;
 - ii) complete immediate actions to control yaw, level the aircraft and cushion the landing; and
 - iii) complete follow up actions after landing with regard to RFM or operator's procedures, communications and passenger protection concerning spinning rotors, etc., prior to exiting the aircraft.
- b) Multi engine:
 - i) recognize an engine failure or, if the exercise is combined with another simulated emergency, the need to shut down an engine;
 - ii) complete immediate actions for an engine failure as applicable in accordance with the ECL, RFM (or AOM), and SOPs;
 - iii) demonstrate stable aircraft handling and make prompt corrections, as necessary, to track, airspeed, altitudes, and rate of climb/descent to remain within a safe flight envelope, allowable flight check tolerances and applicable ATC clearance(s);
 - iv) maintain the operating engine(s) within acceptable operating limits;
 - v) determine the cause of the engine failure and demonstrate the correct re-start procedure if a re-start is appropriate;
 - vi) evaluate impacts on operational factors such as range, flight profile/altitude, flight plan, approach, and landing and adjust accordingly;
 - vii) establish and maintain an appropriate altitude, speed, configuration and flight profile for the phase of flight;
 - viii) complete all required follow-on actions / checklists in accordance with the ECL, RFM and SOPs; and
 - ix) communicate appropriately with ATC, to include a request for any special services that may be required (fire/crash response) at the destination.

24. Autorotation

Mandatory – All PPCs on Single engine helicopters.

Optional – Multi-engine helicopters (See Note in Description)

Aim

To assess the candidate's proficiency to establish an autorotation terminating in a landing or power recovery.

Description

The candidate will demonstrate the ability to establish a stable autorotation following the simulated loss of engine power, failure of the driveshaft / tail rotor system, or other failure or emergency requiring the immediate initiation of an autorotation. The examiner will define a specific landing area and initiate the actual or simulated engine or system failure or ask the candidate to initiate the autorotation when the candidate believes that the designated landing area is within reach.

An autorotation conducted in a helicopter will terminate in a touchdown or power recovery based on the company direction provided by the air operator and RFM limitations. The candidate must be informed prior to the initiation sequence whether a touchdown autorotation or power recovery is intended and who will be responsible for restoring any inhibited system in the latter case.

It should be noted that some helicopter types limit or prohibit practice autorotations with inhibited throttles. In that case, autorotations may be simulated by simply lowering the collective to the minimum stop or point where the rotor RPM (Nr) increases due to autorotation and initiating the entry sequence. A power recovery must be initiated at a safe altitude. Refer to the RFM for any limitations imposed on practice autorotations.

Note:

Multi-engine helicopters are only required to perform a simulated single engine failure in cruise terminating in a single engine approach and landing. (See Exercise 23 - Engine Failures.)

Autorotations in multi-engine helicopter simulators may be requested by the ACP and should be considered for inclusion. Real world failures involving the combining gear box, main drive shaft, loss of tail rotor components or drive, fires or other system failures in multi-engine helicopters may require an immediate autorotation. Each aircraft type has specific airspeeds, limitations and flight characteristics in autorotation. Pilot manual flying skills not practiced or tested, particularly for emergency procedures such as this, are perishable.

Ideally, autorotations should be conducted in a simulator wherever possible. However, in a simulator the landing segment can be difficult to assess because of modelling challenges.

It is not uncommon to encounter a simulator 'red screen' (crash) during the touchdown in situations where the autorotation would have been otherwise considered successful. Therefore, the grading of an autorotation in a simulator should focus on the entry into the autorotation, the pilot decision-making, descent and handling at the bottom end of the autorotation. Management of airspeed, rotor rpm (Nr) float inflation limitations, or other affected equipment need to be carefully evaluated to ensure the procedure is properly conducted. If the landing results in a 'red screen', the landing should only be considered 'unsuccessful' if pilot handling and techniques were inappropriate, and the landing would have likely resulted in major aircraft damage and serious injury or loss of life.

Performance criteria

Assess the candidate's ability to:

- a) recognize an engine, tail rotor or other system failure in a timely manner;
- b) take the required immediate actions and control Nr, yaw, airspeed and aircraft attitude;
- c) make appropriate radio calls/ Mayday, secure cabin, instruct passengers;
- d) identify a suitable landing area;
- e) establish a stable descent in coordinated flight, maintaining Nr and speed within RFM limits;
- f) adjust Nr, speed and heading as required during the descent to arrive at the desired landing area;
- g) complete any applicable checklist items and configure the helicopter appropriately for landing;
- h) determine the cause of the engine failure(s) and demonstrate the correct re-start procedure if a re-start is appropriate and altitude permits;
- i) maintain an appropriate speed prior to the flare and initiate the flare at the appropriate time and height;
- j) initiate power recovery or continue to land, as previously directed by ACP;
- k) if continuing to land:
 - i) adopt an appropriate attitude for landing and
 - ii) raise the collective as required to control Nr and cushion the landing; and
 - iii) touchdown at an appropriate speed, attitude and rate of descent that ensures a safe outcome, with negligible drift or yaw.
- l) if power recovery is to be initiated:
 - i) smoothly restore power as per RFM and confirm
 - ii) add collective to initiate climb out at appropriate power and airspeed, while maintaining appropriate heading.
- m) The range variation during an autorotation is assess as per the Flight Test Tolerance table. ACP discretion in grading is available based the ACP Manual, TP 6533.

25-28. Abnormal/Emergencies

Mandatory – All PPCs

Aim

To assess the candidate's proficiency to respond to a system malfunction or other abnormal situation in an effective manner.

Description

The candidate will be exposed to abnormal and emergency procedures to the extent necessary to confirm that the pilot can manage or resolve such events in an effective manner. A minimum of two malfunctions / abnormal events must be conducted during the PPC, which is in addition to any mandatory engine failure events that must be conducted as part of another flight test exercise.

The events will be of sufficient complexity to allow the examiner to observe the candidate's decision making skills, proper use of the emergency checklist and, for a two-crew PPC, the demonstration of effective CRM.

Performance criteria

Assess the candidate's ability to:

- a) correctly identify malfunctions or abnormal situations in a timely manner;
- b) promptly complete any required 'immediate actions', as specified in an emergency checklist;
- c) demonstrate competency in the use of emergency checklists, MELs, SOPs or any other reference material that is applicable to the event;
- d) assess the inter-relationship that a technical malfunction may have with other systems, as applicable;
- e) consider and apply any restrictions or limitations to the operation of a system(s);
- f) demonstrate effective decision making skills by selecting an appropriate course of action; and
- g) demonstrate effective CRM, as applicable.