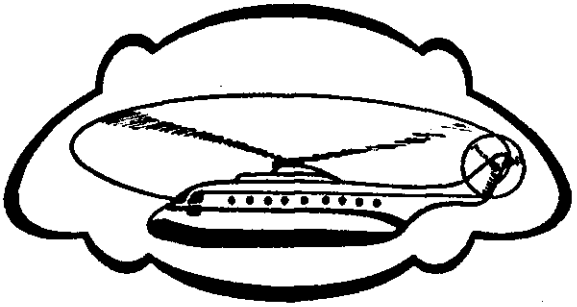
AC 61-82

FLIGHT TEST GUIDE

(PART 61 REVISED)



# AIRLINE TRANSPORT PILOT Helicopter

1976

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AC 61-82

# FLIGHT TEST GUIDE

# AIRLINE TRANSPORT PILOT

## Rotorcraft—Helicopter

## 1976

**U.S. DEPARTMENT OF TRANSPORTATION**
**FEDERAL AVIATION ADMINISTRATION**
**FLIGHT STANDARDS SERVICE**

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## PREFACE

This flight test guide, AC 61–82, has been prepared by the Flight Standards Service of the Federal Aviation Administration to assist the applicant and the instructor in preparing for the flight tests for the Airline Transport Pilot Certificate with a Rotorcraft Category and Helicopter Class Rating under Part 61 of the Federal Aviation Regulations. This guide describes procedures and maneuvers relevant to the flight test for the Airline Transport Pilot Certificate (Helicopter) that is "limited to VFR" and that which is "not limited to VFR." A suggested flight test checklist is included for those who may find such a checklist useful.

In addition to providing help to the applicant and the instructor, this guide will be useful to FAA Inspectors and designated pilot examiners in the conduct and standardization of flight tests. Persons using this guide in connection with pilot training and flight tests for Airline Transport Pilot Helicopter flight training should also refer to the applicable *Federal Aviation Regulations; Airman's Information Manual*; AC 61–21, *Flight Training Handbook*; AC 61–13A, *Basic Helicopter Handbook*; and other pertinent advisory circulars.

Comments regarding this guide may be directed to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Technical Division, AAC–200, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

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## APPLICANT'S TEST CHECKLIST
### (Suggested)

APPOINTMENT WITH INSPECTOR OR EXAMINER: Name _____
Time/Date _____

ACCEPTABLE HELICOPTER

- ☐ View-limiting device
- ☐ Aircraft Documents:
  - Airworthiness Certificate
  - Registration Certificate
  - FAA Approved Helicopter Flight Manual or Flight Manual Material
  - Operating Limitations
  - Weight and Balance Records
- ☐ Aircraft Maintenance Records:
  - Airworthiness Inspections
- ☐ FCC Station License

PERSONAL EQUIPMENT

- ☐ Current Aeronautical Charts
- ☐ Computer
- ☐ Flight Plan Form
- ☐ Current AIM

PERSONAL RECORDS

- ☐ Pilot Certificate
- ☐ Medical Certificate
- ☐ Logbook
- ☐ Notice of Disapproval (if applicable)
- ☐ FCC Radiotelephone Operator Permit
- ☐ Examiner's Fee (if applicable)

# GENERAL INFORMATION

## AIRLINE TRANSPORT PILOT HELICOPTER FLIGHT TEST GUIDE

This guide describes the flight test requiremets for the Airline Transport Pilot Certificate (Helicopter) and associated type ratings "limited to VFR" and "not limited to VFR."

An applicant for an Airline Transport Pilot (Helicopter) Certificate "limited to VFR" must meet the requirements prescribed in FAR Sections 61.151, 61.159(a), 61.161(a) and (b), and 61.163(a). An applicant for an Airline Transport Pilot (Helicopter) Certificate "not limited to VFR" must meet the requirements prescribed in Sections 61.151, 61.159(a) and (b), 61.161(a), (b), and (c), and 61.163(b).

The holder of an Airline Transport (Airplane) Certificate who applies for a Helicapter Rating "limit to VFR" must comply with Sections 61.159(a), 61.161(a) and (b), and 61.163(a). The holder of an Airline Transport Pilot (Airplane) Certificate who applies for a Helicopter Rating "not limited to VFR" must comply with Sections 61.159(a) and (b), 61.161(a), (b), and (c), and 61.163(a) and (b).

An applicant for an Airline Transport Pilot (Helicopter) Certificate "not limited to VFR," who does not already have an Instrument

Pilot Helicopter Rating must, in addition to the procedures and maneuvers prescribed in this guide, comply with Section 61.65(g), as appropriate to the helicopter type being flown.

Throughout the performance of procedures and maneuvers described in this guide, and those selected by the examiner[1] in compliance with Section 61.65(g), if appropriate, the applicant must demonstrate good judgment commensurate with a high level of safety. In determining whether such judgment is shown, the examiner will consider the applicant's adherence to approved procedures, actions based on analyses of situations for which there is no prescribed procedure or recommended practice, and the applicant's prudence and care in selecting a course of action. If the applicant's final performance of *any* required procedure or maneuver is unsatisfactory, the flight test is unsatisfactory. The flight test may be discontinued at any time by the examiner or the applicant; however, once started, every effort should be made to continue it to completion. If the test is discontinued and the applicant is later retested, credit will be given for those procedures and maneuvers which were performed successfully.

## Use of This Guide

Each of the two flight tests outlined in this guide is divided into sections. Each section provides the *Objective*, *Description*, and *Ac-*

[1] The word "examiner" is used in this guide to denote either the Federal Aviation Administration Inspector or FAA designated pilot examiner who conducts official flight tests for Airline Transport Pilot Certificates or Type Ratings.

*ceptable Performance Guidelines* for pertinent procedures and maneuvers.

1. The *Objective* states briefly the purpose of each procedure or maneuver required on the flight test.
2. The *Description* explains the procedure or maneuver and stipulates the conditions and limitations under which it is to be performed.
3. The *Acceptable Performance Guidelines* state the factors which will be taken into account by the examiner in deciding whether the applicant has met the objective of the procedure or maneuver at the required level of competence. The airspeed, altitude, and heading tolerances given represent the minimum performance expected in good flying conditions. Consistently exceeding those tolerances before corrective action is initiated is indicative of an unsatisfactory performance.

In addition to the specific factors considered for a particular procedure or maneuver, the examiner will evaluate the applicant's performance on the basis of judgment, knowledge, accuracy, and control touch displayed. Any procedure or action, or lack thereof, which requires the intervention of the examiner to maintain safe flight will be disqualifying. Failure of the applicant to take positive action to ensure that the flight area is clear of conflicting traffic will also be disqualifying. A competent performance, therefore, is one in which the applicant is obviously the master of the helicopter and the successful and safe completion of the procedure or maneuver is never seriously in doubt.

The procedures and maneuvers set forth in this guide must be performed in a manner that satisfactorily demonstrates the applicant's knowledge and skill with respect to—

a. the helicopter, its systems and components;

b. proper control of airspeed, configuration, direction, altitude, and attitude in accordance with procedures and limitations contained in the manufacturer's published recommendations,[2] and

c. compliance with approved enroute, instrument approach, missed approach, ATC, or other applicable procedures.

RPM tolerances given in this guide apply to reciprocating engine powered helicopters. If the flight test is given in a turbine engine powered helicopter, the RPM limits set forth in the manufacturer's published recommendations shall be observed.

Throughout the flight test, emphasis will be placed on the hazards of spatial disorientation, mid-air collision, and wake turbulence.

## Helicopter and Equipment Requirements for the Flight Test

The applicant is required by Section 61.45 to provide an airworthy helicopter for the flight test. This helicopter must be capable of, and its operating limitations must not prohibit (except where specifically noted), the

[2] The phrase "manufacturer's published recommendations" is used in this guide to denote FAA approved Helicopter Flight Manual material or other manufacturer's published recommendations such as "Owner's Manual," "Owner's Handbook," "Bulletins," and "Letters" for the safe operation of the helicopter model or series.

procedures and maneuvers required on the test. Any procedure or maneuver described in this flight test guide may be modified by the examiner as necessary for the reasonable and safe operation of the helicopter being flown.

### Flight Test Prerequisites

An applicant for either of the Airline Transport Pilot Helicopter tests is required by Section 61.39 to have: (1) passed the appropriate Airline Transport Pilot Helicopter written test within 24 months before the date the flight test is taken,[3] (2) the applicable instruction and aeronautical experience prescribed in Part 61, and (3) at least a first-class medical certificate issued within the preceding 6 months.

[3] The 24-month limitation does not apply to an applicant for an airline transport pilot certificate or an additional aircraft rating on that certficate who has been, since passing the written test, continuously employed as a pilot, or as a pilot assigned to flight engineer duties by, and is participating in an approved pilot training program of a U.S. air carrier or commercial operator, or who is rated as a pilot by, and is participating in, a pilot training program of a U.S. scheduled military air transportation service.

# PART ONE

## AIRLINE TRANSPORT PILOT ROTORCRART-HELICOPTER—LIMITED TO VFR

### Procedures/Maneuvers

### I. PREFLIGHT

#### A. Equipment Test (Oral)

1. *Objective.* To determine that the applicant has a practical knowledge of the helicopter, its operation and limitations, and that the applicant fully understands the instruments, avionic equipment, and any special system or systems installed.

2. *Description.* The applicant will be orally quizzed on the following:

a. Subjects requiring a practical knowledge of the helicopter, its engines, systems, components, instruments, avionic equipment, and operational and performance factors;

b. Normal, abnormal, and emergency procedures, and the operations and limitations related thereto; and

c. The appropriate provisions of the manufacturer's published recommendations.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's knowledge of the appropriate manufacturer's published recommendations, understanding of

the helicopter, its systems, components, instruments, avionics, and knowledge of its weight and balance limitations.

**B. Preflight Check**

1. *Objective.* To determine that the applicant has the necessary knowledge and ability to ascertain that the helicopter is safe for flight.

2. *Description.* The applicant will be required to:

a. Conduct a visual check of the exterior and interior of the helicopter, locating each item, and explaining briefly the purpose for the inspection; and

b. Demonstrate the use of the prestart checklist, appropriate control system check, starting procedures, radio check, and the selection of proper navigation and communications radio facilities and frequencies prior to flight.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the accuracy of the applicant's explanation of the operational purpose of each item and the thoroughness of the inspection.

**C. Engine(s) and Systems Checks**

1. *Objective.* To determine that the applicant can make the necessary engine(s) and systems checks to assure the helicopter's readiness for flight.

2. *Description.* The applicant will be required to perform, through the use of a suitable checklist, checks to determine that the performance of the engine(s) is within acceptable limits and that all systems, equipment, and controls are functioning properly and adjusted for takeoff.

3. *Acceptable Performance Guidelines.* The applicant shall be evaluated on the proficiency and thoroughness with which the engine(s) and systems checks are performed.

## II. MANEUVERING AT MINIMUM SPEED

### A. Pattern Flying at Hovering Altitude

1. *Objective.* To determine that the applicant can fly a precision pattern at hovering altitude.

2. *Description.* The applicant will be required to perform precision patterns at hovering altitude around a square, rectangle, or other ground reference. Demonstrations of forward, sideward, and rearward flight will be included.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to fly the preselected pattern accurately while maintaining a safe altitude and the desired headings.

### B. Air Taxiing

1. *Objective.* To determine that the applicant can precisely air taxi in compliance with local taxi rules or control tower instructions.

2. *Description.* The applicant will be required to maneuver the helicopter along a designated route at hovering altitude as directed.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to maintain positive control of the helicopter while moving over the surface at hovering altitude. Obstructions shall be safely cleared and the designated route accurately

followed. Groundspeed shall be appropriate to the existing conditions and no greater than 10 knots.

### C. Taxiing on the Surface

1. *Objective.* To determine that the applicant can move the helicopter on the surface safely and with precision.

2. *Description.* The applicant will be required to move the helicopter on the surface under its own power, from one point to another, as directed. If the helicopter used for the flight test is equipped with floats, the applicant will be required to taxi, approach a buoy, and dock.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to maintain positive control of the helicopter, safely clear obstructions, and accurately move from one designated spot to another while in contact with the surface. Speed shall be appropriate to existing conditions and no greater than 5 knots.

## III. TAKEOFFS AND LANDINGS

### A. Normal and Crosswind Takeoffs to a Hover

1. *Objective.* To determine that the applicant can transition the helicopter from the surface to a stabilized hover, in various wind conditions.

2. *Description.* The applicant will be required to demonstrate vertical takeoffs to recommended hovering altitude for the helicopter being flown, in headwind, crosswind, and tailwind conditions.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to ascend smoothly from the surface to hovering altitude with a minimum of forward and lateral, and no backward, movement over the surface. The following tolerances shall not be exceeded:

| | |
|---|---|
| Heading | ±5° |
| RPM | ±50 of that recommended |
| Hover altitude | ±1 foot of that recommended |

**B. Normal and Crosswind Landings from a Hover**

1. *Objective.* To determine that the applicant can accomplish a vertical descent from a stabilized hover to the surface, in various wind conditions.

2. *Description.* The applicant will be required to demonstrate vertical descents to the surface, from the recommended hovering altitude of the helicopter being used. The landings shall be accomplished in headwind, crosswind, and tailwind conditions.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to descend smoothly to the surface from hovering altitude with a minimum of forward, and no backward or lateral movement. The following tolerances shall not be exceeded:

| | |
|---|---|
| Heading | ±5° |
| RPM | ±50 of that recommended |

**C. Normal and Crosswind Takeoffs from a Hover**

1. *Objective.* To determine that the applicant can accomplish takeoffs from a hover under various wind conditions.

2. *Description.* The applicant will be required to transition the helicopter from a stabilized hover to a climb under both normal and crosswind conditions.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of planning, drift correction, coordination, technique, smoothness, observance of traffic, and adherence to control tower instructions.

### D. Normal and Crosswind Approaches and Landings

1. *Objective.* To determine that the applicant can accomplish normal approaches and landings under various wind conditions.

2. *Description.* The applicant will be required to demonstrate normal and crosswind approaches and landings. The approaches should be flown at the normal approach angle (approximately 12°), terminating in a stabilized hover at a designated spot. Thereafter, the helicopter should be landed from a hover.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to establish and maintain the proper approach angle, airspeed, and ground track. Performance shall also be evaluated on the basis of planning, drift correction, coordination, technique, smoothness, observance of traffic, and adherence to control tower instructions.

### E. Airport Traffic Pattern and Control Procedures

1. *Objective.* To determine that the applicant can safely and efficiently conform to arrival and departure procedures.

2. *Description.* The applicant will be required to demonstrate prescribed arrival and departure procedures; to maintain appropriate altitudes, airspeeds, and ground track consistent with instructions received, or with the established traffic pattern.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of ability to maneuver as directed by the controller or in accordance with the prescribed pattern. Consideration shall be given to application of wind drift corrections, adequate spacing in relation to other aircraft, and maintaining and controlling altitude and airspeed. Deviation of more than ±50 feet from the prescribed altitudes or ±5 knots from recommended airspeeds shall be considered disqualifying unless corrected promptly.

### F. Maximum Performance Takeoffs and Climbs

1. *Objective.* To determine that the applicant can accomplish maximum performance takeoffs and climbs.

2. *Description.* The applicant will be required to demonstrate a maximum performance takeoff from the surface. Using the available maximum allowable takeoff power, the applicant should transition into forward flight and attain a steep angle of climb to clear simulated obstructions.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of planning, wind drift correction, coordination, technique, smoothness, observance of traffic, and adherence to control tower instructions. The applicant shall achieve a smooth transition from a position on the sur-

face to a maximum performance climb. A smooth transition to a normal climb shall be accomplished after reaching a height of approximately 50 feet above the surface. Abrupt, uncoordinated control application, failure to achieve maximum performance, or failure to maintain RPM within ±50 of that recommended, shall be disqualifying.

NOTE: Penetration of the "height-velocity curve" during this maneuver is normal. This maneuver is *not* required if the flight test is given in a transport category helicopter.

### G. Steep Approaches

1. *Objective.* To determine that the applicant can accomplish steep approaches to a hover.

2. *Description.* The applicant will be required to demonstrate an approach flown at an angle steeper than for a normal approach (approximately 15°), and terminating in a stabilized hover at a designated spot. Thereafter, the helicopter should be landed from a hover.

3. *Acceptable Performance Guidelines.* Performance shall be evaluated on the applicant's ability to establish and maintain the proper approach angle, airspeed, and ground track. Performance shall also be evaluated on the basis of planning, drift correction, coordination, technique, smoothness, observance of traffic, and adherence to control tower instructions.

NOTE: This maneuver is *not* required if the flight test is given in a transport category helicopter.

### H. High Altitude (Running) Takeoffs

1. *Objective.* To determine that the applicant can safely take off when a hover cannot

be sustained due to high density altitude or a heavy load condition.

2. *Description.* The applicant will be required to demonstrate a takeoff using less than hover power. A high density altitude or a heavy load condition will be simulated by the examiner so the helicopter will become airborne only momentarily without benefit of translational lift. This maneuver should be performed in an area where a clear takeoff path exists which will allow the helicopter to make a shallow climb while accelerating to climb airspeed. As this speed is reached, climb power should be established.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of the proper coordination of controls to achieve a gradually accelerating straight ground run to a point where translational lift occurs for a smooth transition to flight. Normal climb speed should be attained before exceeding an altitude of 10 feet.

### I. High Altitude (Running) Landings

1. *Objective.* To determine that the applicant can safely land when a hover cannot be sustained due to high density altitude or a heavy load condition.

2. *Description.* The applicant will be required to demonstrate an approach and landing using less than hover power. The examiner will limit power to simulate a high density altitude or heavy load condition. Sufficient forward speed should be maintained to take advantage of translational lift until ground contact is made.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's

ability to establish and follow a shallow approach angle so that ground contact is made beyond and within 50 feet of a designated spot. Performance shall be evaluated on the basis of proper control coordination to maintain a constant approach angle and to touch down smoothly in a level attitude while in translational lift.

### J. Slope Takeoffs

1. *Objective.* To determine that the applicant can takeoff vertically from a sloping surface and terminate in a hover.

2. *Description.* The applicant will be required to demonstrate a vertical takeoff from a slope of no more than 5°, terminating at the recommended hovering altitude of the helicopter being flown.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of positive accurate control technique to achieve a smooth transition from a position on a slope to a stabilized hover. Sliding downslope or turning the tail of the helicopter upslope shall be disqualifying. The following tolerances shall not be exceeded:

| | |
|---|---|
| Heading | ±5° |
| RPM | ±50 of that recommended |
| Hover altitude | ±1 foot of that recommended |

### K. Slope Landings

1. *Objective.* To determine that the applicant can accomplish a vertical descent from a hover to a landing on a sloping surface.

2. *Description.* The applicant will be required to demonstrate, from a stabilized hover, a landing on a slope of no more than 5°.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to make a positively controlled accurate descent from a stabilized hover to a landing on a slope. The applicant shall recognize when a slope is too steep and abandon the attempt at the first indication of mast-bumping or before full lateral cyclic has been applied. In this event, the applicant shall move the helicopter to a more acceptable slope. Sliding downslope or turning the tail of the helicopter upslope shall be disqualifying. The following tolerances shall not be exceeded:

| | |
|---|---|
| Heading | ±5° |
| RPM | ±50 of that recommended |
| Hover altitude | ±1 foot of that recommended |

### L. Confined Area Takeoffs and Climbs

1. *Objective.* To determine that the applicant can make a safe departure from an area that is confined by natural or man-made obstructions.

2. *Description.* The applicant will be required to demonstrate a takeoff from the ground, and a climb, from an area where the climb angle and flight path are determined by wind, obstructions, and terrain features. A ground reconnaissance may be required prior to takeoff.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to make a takeoff that is as nearly

normal as possible under existing conditions. The applicant will be expected to take advantage of the wind, lowest barrier, and best terrain. Faulty planning and judgment, incorrect use of power or controls, or improper RPM control, shall be disqualifying. The following tolerances shall not be exceeded:

Heading _____ ±5°

RPM _____ ±50 of that recommended

### M. Confined Area Approaches and Landings

1. *Objective.* To determine that the applicant can make a safe approach to, and landing in, an area that is confined by natural or man-made obstructions.

2. *Description.* The applicant will be required to demonstrate an approach to, and landing in, an area where the flight path and approach angle are determined by wind, terrain features, and obstructions. The applicant shall perform both a high and low reconnaissance.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of planning, judgment, and control coordination. Unnecessary flight over unfavorable areas, attempting to fly an approach angle which will not safely clear obstructions, improper RPM control (exceeding that recommended by ±50), or inaccuracy in landing at the selected touchdown point, shall be disqualifying.

### N. Pinnacle/Rooftop Takeoffs and Climbs

1. *Objective.* To determine that the applicant can make a safe departure from an elevated area.

2. *Description.* The applicant will be required to demonstrate a takeoff from an area that is higher than the surrounding terrain. If no barrier exists, the applicant should takeoff from a hover and make an airspeed-over-altitude departure. If a barrier is in the takeoff path, the applicant should takeoff from the ground, and after clearing the barrier, make an airspeed-over-altitude departure. The climb angle and flight path are determined by wind, obstructions, and terrain features. Prior to takeoff, the applicant may be required to perform a ground reconnaissance.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to make a positively controlled takeoff and climb taking into consideration wind, lowest barrier, and terrain. Improper planning, incorrect use of power or controls, or improper RPM control shall be disqualifying. The following tolerances shall not be exceeded:

Heading _____ ±5°

RPM _____ ±50 of that recommended

### O. Pinnacle/Rooftop Approaches and Landings

1. *Objective.* To determine that the applicant can make a safe approach to, and landing on, an elevated area.

2. *Description.* The applicant will be required to demonstrate an approach to, and a landing on, an area that is higher than the surrounding terrain. The flight path and approach angle are determined by wind, obstructions, and terrain features. The applicant shall perform both a high and low reconnaissance.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to fly a pattern suitable to the conditions of wind and terrain. Performance shall be evaluated on the basis of planning, judgment, technique, and control coordination. Attempting to fly an approach angle which is inappropriate for existing conditions, improper RPM control (exceeding that recommended by ±50), or failure to land at the selected touchdown point shall be disqualifying.

## IV. IN-FLIGHT MANEUVERS

### A. Climbs and Climbing Turns

1. *Objective.* To determine that the applicant can make competent straight climbs and climbing turns.

2. *Description.* The applicant will be required to demonstrate straight climbs and climbing turns. Entries will be from, and level-offs will be at, cruising flight. These maneuvers may be demonstrated in conjunction with other maneuvers.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to properly coordinate power, attitude, and pedal trim to gain altitude while maintaining recommended airspeeds and bank angles. During level-offs, power, attitude, and pedal trim shall be adjusted to return smoothly to cruising flight. The applicant shall perform climbs and climbing turns within the following tolerances:

| | |
|---|---|
| Airspeed | ±5 knots |
| Heading | ±5° |

**B. Steep Turns**

1. *Objective.* To determine that the applicant can accurately perform turns of extended duration at steeper than normal angles of bank.

2. *Description.* The applicant will be required to demonstrate right and left turns of at least 360° while maintaining a bank angle of approximately 30°.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of coordination, technique, smoothness, and accuracy. The turns shall be performed within the following tolerances:

| | |
|---|---|
| Altitude | ±100 feet |
| Airspeed | ±10 knots of that specified |
| Recovery heading | ±10° |

**C. Rapid Descent (settling-with-power)**

1. *Objective.* To determine that the applicant understands and can recognize conditions of flight which result in settling-with-power, and to determine that the applicant can safely recover from such a descent.

2. *Description.* The applicant will be required to explain conditions of flight which can result in "settling-with-power" and the effect of power on its severity. The applicant will also be required to demonstrate a "settling-with-power" entry with an *immediate* recovery initiated when the first indications are detected.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's display of a thorough knowledge of "settling-with-power" and ability to demonstrate a

proper entry into this condition. Failure to recognize "settling-with-power" and to initiate a prompt recovery shall be disqualifying.

### D. Quick Stop (rapid deceleration)

1. *Objective.* To determine that the applicant can competently decelerate the helicopter and terminate in a stabilized hover.

2. *Description.* The applicant will be required to perform a rapid deceleration. The maneuver should be performed at an altitude of approximately 25 feet with consideration being given to the height-velocity chart of the helicopter being flown. The helicopter should be decelerated until the desired groundspeed is attained, then the maneuver terminated in a stabilized hover.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of proper coordination of all controls. The maneuver shall be performed within the following tolerances:

Altitude ----- ±10 feet of that assigned
Heading ----- ±5°
Termination - ±15 feet of predetermined point

## V. SIMULATED ENGINE FAILURE

### A. Approach and Landing with Simulated Engine Failure (multiengine helicopters)

1. *Objective.* To determine that the applicant can safely perform an approach and landing with one engine inoperative.

2. *Description.* The applicant will be required to execute at least one approach and landing with simulated failure of one engine.

The manufacturer's published recommendations should be followed in establishing conditions for the simulated failure.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to promptly identify the inoperative engine after the examiner simulates an engine failure, and the ability to follow procedures set forth in the manufacturer's published recommendations for emergency settings of ignition, fuel, electrical, hydraulic, and fire extinguishing systems appropriate to an engine failure. On a straight-in approach, the applicant shall maintain the original heading within $\pm 10°$ and the original altitude within $\pm 100$ feet (if it is within the capability of the helicopter being flown) until the desired approach angle is intercepted. Recommended airspeed, positive aircraft control, proper approach angle, and an accurate ground track shall be maintained during the approach. The approach shall terminate in a safe touchdown.

### B. Autorotative Descent and Spot Landing with Simulated Engine Failure (single-engine helicopters)

1. *Objective.* To determine that the applicant can safely perform an autorotative descent and landing at a predetermined spot.

2. *Description.* The applicant will be required to make an autorotative descent to, and landing in, a suitable area in response to a simulated engine failure. An autorotative turn up to 180° may be required.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of action taken to safely complete

an autorotative descent to, and landing in, an area suitable for touchdown. Slow reaction to the simulated engine failure, such as failure to lower collective pitch immediately, allowing rotor RPM to exceed limits, faulty planning of the pattern, or an unsafe landing shall be disqualifying. The applicant shall touchdown within ±50 feet of a predetermined spot.

NOTE: A simulated engine failure will not be given where a touchdown cannot be safely completed, nor where an autorotative descent and landing might constitute a violation of Federal Aviation Regulations.

### C. Simulated Engine Failure During Hovering Flight

1. *Objective.* To determine that the applicant can make a safe touchdown in the event of engine failure during hovering flight.

2. *Description.* The applicant will be required to make at least one touchdown from a simulated engine failure during hovering flight. During either a stabilized hover or forward air taxiing, the examiner will close the throttle to simulate engine failure. In response to the simulated emergency, the applicant shall perform a hovering autorotation.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of proficiency in accomplishing a safe touchdown. Faulty directional control, excessive drift, or subjecting the landing gear to excessive stress during the landing shall be disqualifying.

## VI. NORMAL AND ABNORMAL PROCEDURES

**A. Anti-icing Systems**

**B. Any Other Systems, Devices, or Aids Available**

**C. Hydraulic and Electrical System Failures or Malfunctions**

**D. Landing Gear Failures or Malfunctions**

1. *Objective.* To determine that the applicant has a practical knowledge of the systems and devices appropriate to the helicopter being flown.

2. *Description.* The applicant will be required to demonstrate the proper use of as many of the systems and devices listed in items A. through D. above as the examiner finds are necessary to determine that the applicant has a practical knowledge of the use of the systems and devices appropriate to the helicopter being flown.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's judgment and demonstration of knowledge of the procedures for the helicopter being flown.

## VII. EMERGENCY PROCEDURES

**A. Fire**

**B. Ditching**

**C. Evacuation**

**D. Operation of Emergency Equipment**

**E. Component or System Failure**

**F. Two-way Radio Communications Failure**

### G. Any Other Emergency Procedure Outlined in the Appropriate Manufacturer's Published Recommendations

1. *Objective.* To determine that the applicant has an adequate knowledge of, and the ability to competently perform, emergency procedures appropriate to the helicopter used for the flight test.

2. *Description.* The applicant will be required to demonstrate the proper emergency procedures for as many of the emergency situations in items A. through G. above, as the examiner finds necessary to determine if the applicant has adequate knowledge of, and the ability to perform, such procedures.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's demonstration of knowledge of the emergency procedures listed above for the helicopter flown, the judgment displayed, and the accuracy of the operations performed.

# PART TWO

## AIRLINE TRANSPORT PILOT ROTORCRAFT-HELICOPTER—NOT LIMITED TO VFR

### Procedures/Maneuvers

NOTE: If the flight tests described in Parts One and Two of this guide are taken in the same type helicopter, the applicant will not be asked to repeat a procedure or maneuver that has already been performed. Maneuvers in Part Two which are to be performed by reference to all available instruments are indicated by a single asterisk (*); maneuvers which may be required without the use of the attitude and heading indicators are indicated by a double asterisk (**).

### I. PREFLIGHT

#### A. Equipment Test (Oral)

1. *Objective.* To determine that the applicant has a practical knowledge of the helicopter, its operations and limitations, and that the applicant fully understands the instruments, avionic equipment, and any special system or systems installed.

2. *Description.* The applicant will be orally quizzed on the following:

a. Subjects requiring a practical knowledge of the helicopter, its engines, systems, components, instruments, avionic equipment, and operational and performance factors;

b. Normal, abnormal, and emergency procedures, and the operations and limitations related thereto; and

c. The appropriate provisions of the manufacturer's published recommendations.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's knowledge of the appropriate manufacturer's published recommendations, understanding of the helicopter, its systems, components, instruments, avionics, and knowledge of its weight and balance limitations.

### B. Preflight Check

1. *Objective.* To determine that the applicant has the necessary knowledge and ability to ascertain that the helicopter is safe for instrument flight.

2. *Description.* The applicant will be requested to:

a. Conduct a visual check of the exterior and interior of the helicopter, locating each item, and explaining briefly the purpose of the inspection; and

b. Demonstrate the use of the prestart checklist, appropriate control system checks, starting procedures, avionic equipment checks, flight instrument checks, and the selection of proper navigation and communications frequencies prior to flight.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the accuracy of the applicant's checks and procedures, the explanation of the operational purpose of each item, and the thoroughness of the checks. Failure to properly check and set instruments and equipment shall be disqualifying.

### C. Engine(s) and Systems Checks

1. *Objective.* To determine that the applicant can make the necessary engine(s) and systems checks to assure the helicopter's readiness for flight.

2. *Description.* The applicant will be required to perform, through the use of a suitable checklist, checks to determine that the performance of the engine(s) is within acceptable limits and that all systems, equipment, and controls are functioning properly and adjusted for takeoff.

3. *Acceptable Performance Guidelines.* The applicant shall be evaluated on the proficiency and thoroughness with which the engine and system checks are performed.

### D. Taxiing and Docking

1. *Objective.* To determine that the applicant can air taxi or move the helicopter on the surface safely and with precision.

2. *Description.* The applicant will be required to air taxi along a designated route at hovering altitude and to move the helicopter under its own power, from one point to another on the surface, as directed. If the helicopter used for the flight test is equipped with floats, the applicant will be required to taxi, approach a buoy, and dock.

3. *Acceptable Performance Guidelines.* During air taxiing, the applicant shall be evaluated on the ability to maintain positive control while moving the helicopter over the surface at hovering altitude, safely clearing obstructions, and accurately following a designated route. Groundspeed should be appropriate to existing conditions and no greater than 10 knots. While taxiing on the

surface, the applicant shall accurately move from one designated spot to another at a speed appropriate to existing conditions and no greater than 5 knots.

## II. AIRPORT AND TRAFFIC PATTERN OPERATIONS

### A. Normal and Crosswind Takeoffs from a Hover

1. *Objective.* To determine that the applicant can make takeoffs from a hover under various wind conditions.

2. *Description.* The applicant will be required to transition from a stabilized hover to a climb under both normal and crosswind conditions.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of planning, wind drift correction, coordination, technique, observance of traffic, and adherence to control tower instructions.

### B. Airport Traffic Pattern and Control Procedures

1. *Objective.* To determine that the applicant can safely and efficiently conform to arrival and departure procedures.

2. *Description.* The applicant will be required to demonstrate prescribed arrival and departure procedures; to maintain appropriate altitudes, airspeeds, and ground track consistent with instructions received, or with the established traffic pattern.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of ability to maneuver as directed by the controller or in accordance with the

prescribed pattern. . Consideration shall be given to application of wind drift corrections, adequate spacing in relation to other aircraft, and maintaining and controlling altitude and airspeed. Deviation from the following tolerances shall be disqualifying unless promptly corrected:

| | |
|---|---|
| Altitude | ±50 feet |
| Airspeed | ± 5 knots |

### C. Normal and Crosswind Approaches to a Hover

1. *Objective.* To determine that the applicant can make approaches to a hover under various wind conditions.

2. *Description.* The applicant will be required to demonstrate normal and crosswind approaches. The approaches should be flown at the normal approach angle (approximately 12°), terminating in a stabilized hover at a designated spot.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to establish and maintain the proper approach angle, airspeed, and ground track. Performance shall also be evaluated on the basis of planning, wind drift correction, coordination, technique, smoothness, observance of traffic, and adherence to control tower instructions.

## III. BASIC INSTRUMENT MANEUVERS

### A. Straight-and-Level Flight*

1. *Objective.* To determine that the applicant can maintain accurate straight-and-level flight.

2. *Description.* The applicant will be required to demonstrate straight-and-level flight

at normal cruising speed. Assigned altitude, heading, and airspeed shall be accurately maintained.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of ability to fly straight-and-level within the following tolerances:

| | |
|---|---|
| Altitude | ±100 feet |
| Heading | ± 10° |
| Airspeed | ± 10 knots |

**B. Turns**

1. *Objective.* To determine that the applicant can make accurate level, climbing, descending, timed, and steep turns.

2. *Description.* The applicant will be required to demonstrate heading changes using various means to determine rate and amount of turn in level, climbing, and descending flight. The following turns shall be performed:

a. Level standard rate turns;*

b. Climbing turns**—this maneuver is *not* required if the applicant holds a helicopter instrument rating and an Airline Transport Pilot (Helicopter) Certificate limited to VFR;

c. Descending turns;*

d. Timed turns**—this maneuver is *not* required if the applicant holds a helicopter instrument rating; and

e. Steep turns*—right and left for at least 360° while maintaining a bank angle of approximately 30°.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the ability to complete turns within ±10° of

the desired heading while maintaining the desired airspeed within ±10 knots. In level turns, the applicant shall maintain desired altitude within ±100 feet. Climbing and descending turns shall be completed within ±100 feet of the altitude assigned.

### C. Straight Climbs and Descents

1. *Objective.* To determine that the applicant can perform accurate straight climbs and descents.

2. *Description.* The applicant will be required to demonstrate changes in altitude including:

a. Constant airspeed climbs**—this maneuver is *not* required if the applicant holds a helicopter instrument rating and an Airline Transport Pilot (Helicopter) Certificate limited to VFR;

b. Constant airspeed descents;*

c. Constant rate climbs**—this maneuver is *not* required if the applicant holds a helicopter instrument rating and an Airline Transport Pilot (Helicopter) Certificate limited to VFR; and

d. Constant rate descents.*

3. *Acceptable Performance Guidelines.* The applicant shall be evaluated on the ability to perform climbs and descents within the following tolerances:

| | |
|---|---|
| Airspeed | ± 10 knots |
| Vertical rate | ±200 feet/minute of that specified |
| Level-off | ±100 feet of assigned altitude |

### D. Maneuvering at Slow Speed*

1. *Objective.* To determine that the applicant can accurately maneuver the helicopter at slow speed.

2. *Description.* The applicant will be required to fly straight courses, and perform turns, climbs, and descents at approximately 50% of cruising speed. The smooth transition to and from this speed shall also be required.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of coordination, technique, smoothness, and accuracy. The maneuver shall be performed within the following tolerances:

| | |
|---|---|
| Altitude | ±100 feet |
| Assigned heading | ± 10° |

## IV. IFR NAVIGATION

### A. VOR Navigation*

1. *Objective.* To determine that the applicant can competently navigate in the National Airspace System by means of VOR, communicate with ATC, and adhere to ATC clearances.

2. *Description.* The applicant will be required to demonstrate:

a. VOR orientation;

b. Determining position using intersecting radials, or a radial and DME;

c. Intercepting a selected radial at a predetermined angle;

d. Tracking on a selected radial; and

e. Adherence to ATC departure and arrival clearances.

The applicant will also be required to demonstrate the proper use of two-way radio communications procedures for reports, ATC clearances, and other instructions.

3. *Acceptable Performance Guidelines.* Performance shall be evaluated on the basis of the applicant's competence and accuracy in determining position, maintenance of assigned radials, interception procedures, compliance with ATC clearances, and communications procedures.

**B. ADF Navigation***

1. *Objective.* To determine that the applicant can competently navigate in the National Airspace System by means of ADF, communicate with ATC, and adhere to ATC clearances.

2. *Description.* The applicant will be required to demonstrate the use of ADF for homing, intercepting, and tracking predetermined radio bearings to and from nondirectional beacons, and for determining position by use of cross bearings. The applicant will also be required to demonstrate the proper use of two-way radio communications for reports, ATC clearances, and other instructions.

3. *Acceptable Performance Guidelines.* Performance shall be evaluated on the basis of the applicant's competence and accuracy in determining position by means of cross bearings, interception procedures, ability to maintain orientation and the assigned track, compliance with ATC clearances, and communications procedures.

### C. Holding Procedures*

1. *Objective.* To determine that the applicant can competently enter and fly a holding pattern.

2. *Description.* The applicant will be required to demonstrate the ability to properly enter, maintain, and leave a standard or a non-standard holding pattern.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's entry procedure, compliance with the holding direction/radial, and timing. The applicant shall stay within holding airspace and maintain altitude. The maneuver shall be performed within the following tolerances:

Airspeed ____ ± 10 knots of that specified
Altitude _____ ±100 feet of that assigned

## V. INSTRUMENT APPROACHES

### A. VOR Approach*

1. *Objective.* To determine that the applicant can perform safe and accurate VOR approaches.

2. *Description.* The applicant will be required to make a published VOR approach.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to descend on the published course so as to arrive at the MDA at or before the missed approach point, in a position from which a normal landing approach can be made. The missed approach point shall be determined by accurate timing from the final approach fix. Deviations of more than ±10 knots from the recommended approach speed for the helicopter used shall be disqualifying.

Descent below minimum altitudes during any part of the approach, descent below the MDA prior to the examiner reporting the runway environment in sight, or descent below the MDA prior to reaching a position from which a normal approach to the landing runway or helipad can be made, shall also be disqualifying.

### B. ILS Approach*

1. *Objective.* To determine that the applicant can perform safe and accurate ILS approaches.

2. *Description.* The applicant will be required to make a published ILS approach.

3. *Acceptable Performance Guidelines.* The applicant shall descend on a straight-in approach to the DH, arriving at a position from which normal landing approach can be made. Deviations of more than $\pm 10$ knots from the recommended approach speed of the helicopter being used shall be disqualifying. Descent below minimum altitudes during any part of the approach, full scale deflection of the CDI or the glide slope indicator after glide slope interception, or descent below the DH prior to the examiner reporting the runway environment in sight, shall also be disqualifying.

### C. ADF Approach*

1. *Objective.* To determine that the applicant can perform safe and accurate ADF approaches.

2. *Description.* The applicant will be required to make an ADF approach using a published NDB (non-directional beacon) approach procedure.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to descend on the published course so as to arrive at the MDA at or before the missed approach point, in a position from which a normal landing approach can be made. The missed approach point shall be determined by accurate timing from the final approach fix. Deviations of more than ±10 knots from the recommended approach speed for the helicopter used shall be disqualifying. Descent below minimum altitudes during any part of the approach, descent below the MDA prior to the examiner reporting the runway environment in sight, or descent below the MDA prior to reaching a position from which a normal approach to the landing runway or helipad can be made, shall also be disqualifying.

**D. Missed Approach Procedures***

1. *Objective.* To determine that the applicant can safely and accurately transition from a landing approach to a climb, and has the ability to competently fly the helicopter throughout the missed approach procedure from minimum approach altitude to the missed approach altitude.

2. *Description.* During at least one instrument approach, the applicant will be required to perform the missed approach procedure depicted on the approach chart being used. If, at any time during an approach, the examiner does not specifically ask for the missed approach, but fails to report the runway environment in sight at the DH on a precision approach, or at the MAP (missed approach point) on a non-precision approach, the applicant should immediately initiate the

missed approach procedure as described on the chart, or as directed by ATC.

3. *Acceptable Performance Guidelines.* Evaluation shall be made on the basis of the applicant's judgment in deciding when to perform the missed approach, the appropriateness of communications and navigation procedures, the ability to maintain positive aircraft control, and the ability to operate all systems in accordance with applicable operating instructions for the helicopter being used. Descent below the DH or MDA, as appropriate, prior to initiation of the missed approach procedure shall be disqualifying, except in those instances where the runway environment is in sight at the DH or MDA.

## VI. SIMULATED ENGINE FAILURE

### A. Accuracy Autorotative Approach and Spot Landing with Simulated Engine Failure (single-engine helicopters)

1. *Objective.* To determine that the applicant can safely perform a precision autorotative approach and landing at a predetermined spot.

2. *Description.* The applicant will be required to make an autorotative approach to, and landing in, a suitable area in response to a simulated engine failure. An autorotative turn up to 180° may be required.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of action taken to safely complete an autorotative approach to, and landing in, an area suitable for touchdown. Slow reaction to the simulated engine failure, such as failure to lower collective pitch immediately,

allowing rotor RPM to exceed limits, faulty planning of the pattern, or an unsafe landing shall be disqualifying. The applicant shall touchdown within ±50 feet of a predetermined spot.

NOTE: A simulated power failure will not be given where a touchdown cannot be safely completed, nor where an autorotative descent and landing might constitute a violation of Federal Aviation Regulations.

**B. Rapid Descent (autorotation)***

1. *Objective.* To determine that the applicant can react promptly and correctly to engine failure during instrument flight.

2. *Description.* During cruising flight at an altitude of at least 2,000 feet AGL, the examiner will reduce power to simulate engine failure. In response to the simulated emergency, the applicant should enter autorotation and turn into the known wind. The applicant shall continue the autorotative descent for approximately 1,000 feet, then make a power recovery. The applicant will *not* be evaluated on power recovery technique.

3. *Acceptable Performance Guidelines.* The applicant's performance shall be evaluated on the basis of planning, prompt action, and the proper coordination of collective pitch, cyclic, and pedal throughout the entry and descent. The recommended airspeed and RPM shall be maintained. Slow reaction to the simulated engine failure, such as failure to lower the collective pitch immediately, allowing the rotor RPM to exceed limits, faulty control coordination, or failure to turn into the known wind, shall be disqualifying.

### C. Simulated Engine-out Operations (multiengine helicopters)

1. *Objective.* To determine that the applicant can competently perform the following:

a. Engine-out procedures;

b. Maneuvering with one engine out*;

c. Takeoff and climb with one engine out (if within the capability of the helicopter being flown); and

d. Approach and landing with one engine out.

2. *Description.* The applicant will be required to demonstrate proper engine-out procedures, maneuvering during a simulated engine failure, a takeoff and a climb with a simulated engine failure (if within the capability of the helicopter used), and an approach and landing during a simulated engine failure. The manufacturer's published recommendations should be followed in establishing conditions for the simulated engine-out operations.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's ability to promptly identify the inoperative engine after the examiner simulates an engine failure and to follow the procedures set forth in the manufacturer's published recommendations for emergency settings of ignition, fuel, electrical, hydraulic, and fire extinguishing systems appropriate to engine failure.

While maneuvering with an engine out, the applicant shall, during straight-and-level flight and shallow-banked turns, remain within ±10 knots of the assigned airspeed and within ±100 feet of the assigned altitude (if within

the capability of the helicopter used). During straight-and-level flight, heading shall be maintained within $\pm 10°$ of that assigned.

During the engine-out takeoff and climb (if within the capability of the helicopter used), the applicant shall maintain the recommended power settings and accurate aircraft control. After becoming airborne, the applicant shall maintain a positive rate of climb, desired airspeed within $\pm 10$ knots, and desired heading within $\pm 10°$.

During an approach for an engine out landing, the applicant shall maintain the desired heading within $\pm 10°$ and the original altitude within $\pm 100$ feet (if within the capability of the helicopter used) until the desired approach angle is intercepted. Positive aircraft control, recommended airspeed, and an accurate approach angle and ground track shall be maintained during the approach. The approach shall terminate in a safe touchdown.

If the helicopter used for the flight test is not capable of maintaining altitude with an engine inoperative under existing conditions, the applicant shall maintain an airspeed within $\pm 10$ knots of the engine-out minimum rate of descent speed.

## VII. NORMAL AND ABNORMAL PROCEDURES

**A. Anti-icing Systems**

**B. Autopilot Systems**

**C. Automatic and Other Approach Aid Systems**

**D. Stability Augmentation Devices**

**E. Airborne Radar Devices**

**F. Any Other Systems, Devices, or Aids Available**

**G. Hydraulic and Electrical System Failures or Malfunctions**

**H. Landing Gear Failures or Malfunctions**

**I. Failure of Navigation or Communications Equipment**

1. *Objective.* To determine that the applicant has a practical knowledge of the systems and devices appropriate to the helicopter being flown.

2. *Description.* The applicant will be required to demonstrate the proper use of as many of the systems and devices listed in items A. through I. above, as the examiner finds are necessary to determine that the applicant has a practical knowledge of the use of the systems and devices appropriate to the helicopter being flown.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's judgment and demonstration of knowledge of the procedures for the helicopter being flown.

## VIII. EMERGENCY PROCEDURES

### A. Recovery from Unusual Attitudes**

1. *Objective.* To determine that the applicant can promptly recognize and recover from unusual flight attitudes.

2. *Description.* The examiner will place the helicopter in unusual flight attitudes which are representative of those which could

result from vertigo, wake turbulence, lapse of attention, or abnormal trim conditions. The applicant should recover and return to the original altitude and heading. Particular care should be exercised to avoid overcontrolling or critical flight attitudes when performing these maneuvers.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the promptness, smoothness, and accuracy the applicant demonstrates. All maneuvering shall be conducted within the operating limitations of the helicopter used. Any loss of control or abrupt control usage, which makes it necessary for the examiner to take control to avoid exceeding any operating limitation of the helicopter, shall be disqualifying.

**B. Fire**

**C. Ditching**

**D. Evacuation**

**E. Operation of Emergency Equipment**

**F. Component or System Failure**

**G. Two-way Radio Communications Failure**

**H. Any other Emergency Procedure Outlined in the Appropriate Manufacturer's Published Recommendations**

1. *Objective.* To determine that the applicant has an adequate knowledge of, and the ability to competently perform, selected emergency procedures appropriate to the helicopter used for the flight test.

2. *Description.* The applicant will be required to demonstrate the proper emergency procedures for as many of the emergency

situations in items B. through H. above, as the examiner finds necessary to determine adequate knowledge of, and ability to perform, such procedures.

3. *Acceptable Performance Guidelines.* Evaluation shall be based on the applicant's demonstration of knowledge of the emergency procedures listed above for the helicopter used, the judgment displayed, and the accuracy of the operations performed.

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