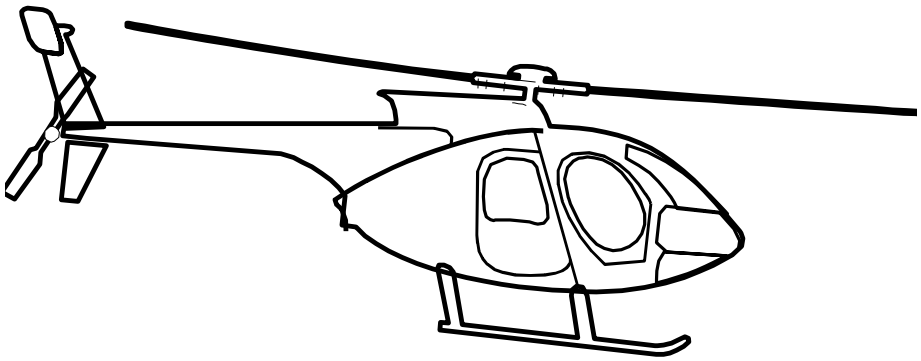
U. S. Department of the Interior	U. S. Forest Service

INTERAGENCY HELICOPTER PRACTICAL TEST STANDARDS



PREFACE

These Interagency Practical Test Standards (IPTS) have been prepared to assist Inspector Pilots and pilots, subject to agency approval, to meet agency requirements.

The Interagency Practical Test Standards have been formatted to parallel the FAA Practical Test Standards (FAA PTS). All Interagency Practical Tests incorporate the FAA Commercial Practical Test Standards as an integral part of the Interagency Practical Test, except where the procurement document requires higher standards. (In the case of procurement that requires airline transport pilot qualifications, the FAA Airline Pilot Practical Test Standards will apply.)

The Inspector Pilot will evaluate all aspects of a pilot's performance, whether a task was specifically asked for or not. The Inspector Pilot may ask the pilot to perform any task identified in the appropriate FAA Practical Test Standards as well as the Interagency Practical Test Standards (appropriate for the approvals sought).

Some tasks identified in the Interagency Practical Test Standards may appear to be a duplication of the FAA Commercial Pilot Practical Test Standards (the task title may be the same). This is not the case. Aspects of the Interagency version differ from the FAA version to better meet the needs of the agencies. The Interagency version of the test standards supersedes the FAA version, and the Interagency standard will be the basis for evaluation. If a FAA standard has not been edited, it will not appear in the Interagency Practical Test Standards.

INSTRUCTIONS TO THE INSPECTOR PILOT

Though most of the maneuvers (tasks) needed for evaluation are included in the Interagency Practical Test Standards (IPTS), the Inspector Pilot has the option of asking the pilot to demonstrate appropriate tasks from the FAA Practical Test Standards. During the flight evaluation, the pilot is expected to perform all maneuvers to the minimum standards established by the FAA PTS and/or the IPTS, even if a particular maneuver was not specifically requested by the Inspector Pilot. As an example of this:

> During the evaluation, while flying to a location to do confined area operation, the pilot is expected to meet the tolerances identified in the IPTS for straight and level flight, climbs, turns, and descents.

It is not intended that the Interagency Practical Test duplicate the FAA Part 135 evaluation, but it is recognized that some duplication is inevitable. The Inspector Pilot is not expected to accept that a pilot is proficient simply based on a paperwork presentation. It has been our experience that pilots have been presented who did not meet basic safe skill levels. The Inspector Pilot may ask the pilot to demonstrate those tasks that the Inspector Pilot feels are necessary to assure himself that the pilot will, likely, be able to perform the more difficult tasks demanded later in the practical test.

The Inspector Pilot may select tasks to be demonstrated so as to assure that the pilot meets the appropriate interagency requirement. Once a task has been selected, all objectives of that task must be satisfactorily demonstrated. The Inspector Pilot <u>may</u> combine tasks when appropriate.

Each contract pilot, rental agreement pilot, call-when-needed pilot, cooperator pilot, and Government pilot shall be approved annually for Government use by an appropriate helicopter Inspector Pilot. The following administrative procedures will be followed:

A. Records and Documents: The applicant is required to produce records and documents to show that he/she meets the requirements under which he/she will be approved. These will include but not be limited to:

    1. Valid commercial or airline transport pilot certificate with appropriate ratings.
    2. Appropriate current Class I or Class II medical certificate.
    3. Current pilot log book, military flight records, and/or other acceptable documentation of pilot experience.

INSTRUCTIONS TO THE INSPECTOR PILOT (cont.)

B. The following documents will be provided for the approving agency files:

1. Completed Pilot Qualifications and Approval Record (OAS-64B or FS-5700-20A).
2. Current copy of pilot certificate (initial approval or when a pilot certificate has been upgraded).
3. Copy of current medical certificate.
4. Choose a or b below, whichever is applicable:

    a. Copy of current FAR 135 Airman Competency/Proficiency Check (FAA 8410-3).
    b. For pilots of limited-use helicopters, an equipment endorsement by the company chief pilot or the FAA.

5. Copy of FAR 133 and 137 Competency Endorsement.
6. Completed agency load calculation form.

C. The applicant must demonstrate abilities to perform the appropriate pilot operations based on the following:

1. Executing procedures and maneuvers within the aircraft's performance capabilities and limitations, includes the use of the aircraft's equipment and systems.
2. Executing emergency procedures and maneuvers appropriate to the aircraft.
3. Piloting the aircraft with smoothness and accuracy.
4. Exercising good judgement.
5. Applying aeronautical knowledge.
6. Showing that the pilot is master of the aircraft, with the successful outcome of a procedure or maneuver never seriously in doubt.

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I. PREFLIGHT PREPARATION

A. TASK: RECORDS, CERTIFICATES, AND DOCUMENTS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the appropriate:

(1) Pilot privileges and limitations applicable to government flights.
(2) Medical Certificate, class, and duration.
(3) Personal pilot logbook or flight record.
(4) FCC station license and operator's permit, if applicable.
(5) FAR 133 and 137 competency endorsement requirements
(6) Contract requirements.

b. Exhibits knowledge by locating and explaining the significance and importance of the:

(1) Airworthiness and registration certificates.
(2) Operating limitations, handbooks, and manuals.
(3) Equipment list/minimum equipment list (as appropriate).
(4) Weight and balance data. (Helicopter Load Calculations OAS-67 or FS-5700-17).
(5) Maintenance requirements, tests, and appropriate records applicable to contract flights, including preventive maintenance.

2. Action. The inspector will:

a. Ask the applicant to explain the appropriate pilot and medical certificates and personal flight records applicable to contract flights, and determine that the applicant's knowledge meets the objective.

b. Ask the applicant to locate and explain helicopter documents, lists, and other required data, including helicopter maintenance records, contract requirements, the *Interagency Aviation Transport of Hazardous Materials Handbook and Guide*; and determine that the applicant's performance and knowledge meet the objective.

B. TASK: OBTAINING WEATHER INFORMATION

Refer to FAA PTS.

C. TASK: OPERATION OF HELICOPTER SYSTEMS

PILOT OPERATION

1. **Objective**. To determine that the applicant exhibits knowledge of the helicopter's system as appropriate, including:

   a. Primary flight controls, trim, and stability systems, if installed.
   b. Pitot static system and associated flight instruments.
   c. Landing gear.
   d. Powerplant.
   e. Fuel system.
   f. Oil system (engine and transmission).
   g. Hydraulic system.
   h. Electrical system.
   i. Environmental system.
   j. De-ice and anti-ice systems.
   k. Avionics.

2. **Action.** The inspector will ask the applicant to explain normal operating procedures and limitations of the helicopter system using correct terminology in identifying components, and determine that the applicant's knowledge meets the objective.

D. TASK: EMERGENCY PROCEDURES

1. **Objective.** To determine that the applicant exhibits knowledge by correctly explaining the applicable emergency procedures including:

   a. Emergency checklist.
   b. Partial power loss.
   c. Engine failure.
   d. Emergency landing.
   e. Compressor stall.
   f. Engine restart.
   g. Loss of oil pressure (engine or transmission).
   h. Smoke and fire.
   i. Icing.
   j. Pitot static system and associated instruments.
   k. Electrical.
   l. Failure of external load release.
   m. Landing gear or floats.
   n. Inadvertent door opening.
   o. Emergency exits.

2. **Action.** The inspector will ask the applicant to explain the emergency procedures, and determine that the applicant's knowledge meets the objective.

E. TASK: DETERMINING PERFORMANCE AND LIMITATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining performance and limitations, including a thorough knowledge of the adverse effects of exceeding the limits.
b. Demonstrates proficient use of the appropriate performance, charts, tables, and data.
c. Demonstrates proficient use of helicopter load calculations including use of downloading procedures.
d. Computes weight and balance, including adding, removing, and shifting weight, and determines if the weight and center of gravity will be within limits during all phases of flight.
e. Determines helicopter performance in all phases of flight, considering the effects of various conditions.
f. Describes the effect of atmospheric conditions on helicopter performance.
g. Uses good judgment in making a competent decision on whether the required performance is within the operating limitations of the helicopter.

2. Action. The inspector will:

a. Ask the applicant to explain helicopter performance and limitations, weight reduction, including the adverse effects of exceeding those limits; and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to determine helicopter performance and limitations and to describe the effect of atmospheric conditions on helicopter operation; and determine that the applicant's knowledge and performance meet the objective.

F. TASK: CROSS-COUNTRY PLANNING

Refer to FAA PTS.

G. TASK: NIGHT FLIGHT OPERATIONS

Refer to FAA PTS.

II. GROUND OPERATIONS

A. TASK: VISUAL INSPECTION

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge of helicopter visual inspection by explaining the reasons for the inspections, what items should be inspected, and how to detect possible defects.
b. Inspects the helicopter by systematically following the checklist.
c. Verifies that the helicopter is in condition for safe flight, emphasizing:

(1) Fuel quantity, grade, and type.
(2) Fuel contamination.
(3) Fuel tank venting.
(4) Oil quantity, grade, and type.
(5) Fuel, oil, and hydraulic leaks.
(6) Plight controls.
(7) Structural damage.
(8) Rotor blade tiedown removal.
(9) Blade dampener positioning, where appropriate.
(10) Rotor blade position for start, or clutch engagement where appropriate.
(11) Strut extension, where appropriate.
(12) Ice and frost removal.
(13) Security of baggage, cargo, and equipment.

2. Action. The inspector will:

a. Ask the applicant to explain the reasons for the inspection, what items should be inspected, and how to detect possible defects; and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's visual inspection procedure and determine that the applicant's performance meets the objective.

B. TASK: COCKPIT MANAGEMENT

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge of cockpit management by explaining efficient cockpit management procedures, related safety factors, and the securing of cargo.

b. Exhibits knowledge of requirement for wearing, and fit of personal protective equipment.
c. Ensures that safety belts and shoulder harnesses are fastened.
d. Exhibits efficient cockpit resource management procedures in multi-crewed helicopters.
e. Exhibits knowledge of techniques for prevention of inadvertent external load releases.
f. Briefs passengers before flight, Ref. 135, 117.

2. Action. The inspector will:

a. Ask the applicant to explain the procedure for good cockpit management and related safety factors, and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's cockpit management procedures and determine that the applicant's performance meets the objective.

C. TASK: STARTING THE ENGINE

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining correct engine starting procedures, including the use of an external power source, starting under various atmospheric conditions, and the effects of using incorrect starting procedures.
b. Performs all the items by systematically following the before-starting and starting checklists.
c. Demonstrates competence in the care of equipment.
d. Accomplishes correct starting procedure with emphasis on:

(1) Determining that the area is clear, and avoiding any hazardous situation.
(2) Positioning and frictioning the flight controls, as necessary.
(3) Setting the brakes, if so equipped.
(4) Using an approved starting procedure.
(5) Preventing helicopter movement during and after the engine-start.
(6) Avoiding excessive engine RPM and temperatures.
(7) Checking the engine instruments after engine-start.

2. Action. The inspector will:

a. Ask the applicant to explain correct starting procedures and the effects of using incorrect procedures; and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's engine starting procedures, and determine that the applicant's performance meets the objective.

D. TASK: PRE-TAKEOFF CHECK

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge of the pre-takeoff check by thoroughly explaining the reasons for checking the items and how to detect possible malfunctions.
b. Avoids creating a hazard to surroundings during the check.
c. Divides attention inside and outside the cockpit.
d. Performs a systematic check by following the checklist.
e. Ensures that the helicopter is in safe operating condition.
f. Reviews required takeoff distances, if necessary.
g. Describes takeoff emergency procedures.
h. Obtains and interprets takeoff and departure clearances, where appropriate.

2. Action. The inspector will:

a. Ask the applicant to explain the reasons for checking items on the pre-takeoff check and how to detect possible malfunctions; and determine that the applicant's knowledge meets the objective.
b. Observe the pre-takeoff check and determine that the applicant's performance meets the objective.

E. TASK: POSTFLIGHT PROCEDURES

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of post-flight procedures, including parking, temperature stabilization, shutdown, securing, and postflight inspection.
b. Selects the designated or suitable parking area, considering wind conditions and obstructions.
c. Parks the helicopter properly.

d. Follows the checklist for engine shutdown, cockpit securing, and disembarking passengers.
e. Secures the helicopter properly.
f. Performs a satisfactory post-flight inspection.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of postflight procedures, including parking, shutdown, securing, and postflight inspection; and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's postflight procedures and determine that the applicant's performance meets the objective.

III. HOVERING AND MANEUVERING BY GROUND REFERENCES

A. TASK: VERTICAL TAKEOFF

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of a vertical takeoff to a hover.
b. Ascends to, and maintains the recommended *(The term "recommended" refers to the manufacturer's recommendation. If the manufacturer's recommendation is not available, the description contained in AC 61-13 will be used.)* hovering altitude in headwind, tailwind, and crosswind conditions by:

(1) Establishing and maintaining aircraft power within operating limits.
(2) Keeping forward and sideward movement to a minimum, with no aft movement.
(3) Maintaining specified heading, ±10º.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a vertical takeoff to a hover, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a vertical takeoff to a hover, and determine that the applicant's performance meets the objective.

B. TASK: HOVER TAXI

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of hover-taxi procedures.
b. Hover-taxies around a square, rectangle, or other ground reference demonstrating forward, sideward, and rearward hovering and hovering turns.
c. Maintains aircraft power within operating limits.
d. Maintains specified ground track within two feet on straight legs.
e. Maintains constant rate of turn at pivot points.
f. Turns to specified heading and maintains those headings, ±10º.
g. Maintains position within two feet of each pivot point during turns.
h. Makes 90º, 180º, 360º pivoting turns, stopping within 10º of specified headings.
i. Maintains recommended hovering altitude ±2 feet.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of hover-taxi procedures and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to hover taxi around a specified pattern, including forward, sideward, and rearward flight; and determine that the applicant's performance meets the objective.

C. TASK: VERTICAL LANDING

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of a vertical landing.
b. Descends from recommended hovering altitude to a landing during headwind, tailwind, and crosswind conditions by:

(1) Maintaining aircraft power within operating limits.
(2) Establishing and maintaining a constant rate of descent.
(3) Landing within two feet of the designated touchdown point, with minimum forward and sideward movement, and no aft movement.
(4) Maintaining specified heading, ±10º.

c. Lowers collective pitch to the full down position after the landing gear is firmly on the surface.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a vertical landing from a hover and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a vertical landing from a hover and determine that the applicant's performance meets the objective.

D. TASK: SURFACE TAXI

Refer to FAA PTS.

E. TASK: AIR TAXI

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of air-taxi procedures.
b. Air taxies from one point to another.
c. Maintains aircraft power within operating limits.
d. Selects a safe airspeed and altitude.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of air-taxi procedures, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to air taxi from one point to another, and determine that the applicant's performance meets the objective.

IV. AIRPORT, HELIPORT, AND TRAFFIC PATTERN OPERATIONS

A. TASK: AIRPORT AND HELIPORT MARKING AND LIGHTING

Refer to FAA PTS.

B. TASK: RADIO COMMUNICATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining ATC and Government radio communications procedures and prescribed procedures for radio failure.
b. Selects appropriate frequencies for facilities to be used.
c. Transmits requests and reports using recommended standard phraseology.

d. Acknowledges and complies with radio communications.
e. Uses prescribed procedures following Government radio communications failure.

2. Action. The inspector will:

a. Ask the applicant to explain radio communications procedures, prescribed procedures for radio failure, and ATC light signals; and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's communications procedures and determine that the applicant's performance meets the objective.

C. TASK: NORMAL AND CROSSWIND DEPARTURES

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs from a hover.
b. Maintains aircraft power within operating limits.
c. Accelerates to the normal climb airspeed and establishes correct climb power setting.
d. Maintains the specified heading, ±10º.
e. Establishes wind-drift correction during the takeoff leg.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a normal and crosswind takeoff from a hover, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform both a normal and crosswind takeoff from a hover, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK may be evaluated through oral testing.

D. TASK: TRAFFIC PATTERN OPERATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining traffic pattern procedures at controlled and non-controlled airports and heliports at complex fire situations, including collision, wind shear, heavy smoke and wake turbulence voidance.

b. Follows established traffic pattern procedures consistent with instructions or rules.
c. Corrects for wind drift to follow the appropriate ground track.
d. Maintains adequate spacing from other traffic.
e. Maintains aircraft power within operating limits.
f. Maintains specified traffic pattern altitude ±50 feet.
g. Maintains specified airspeed, ±10 knots.
h. Maintains specified heading, ±10º.
i. Maintains orientation throughout the traffic pattern.

2. Action. The inspector will:

a. Ask the applicant to explain airport and heliport traffic pattern operations, and determine that the applicant's knowledge meets the objective.
b. Observe the applicant's ability to conform with the established traffic pattern procedures and determine that the applicant's performance meets the objective.

E. TASK: NORMAL AND CROSSWIND APPROACHES

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of normal and crosswind approaches to a hover.
b. Maintains aircraft power within operating limits.
c. Establishes a descent at the recommended airspeed and approach angle.
d. Maintains the proper approach angle and recommended airspeed to point of transition to hover.
e. Makes smooth, timely, and precise control applications during transition to hover (recommended hovering altitude, ±2 feet).
f. Terminates the approach within two feet of the designated point.
g. Corrects for crosswind and maintains straight ground track.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a normal and crosswind approach and landing, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a normal and crosswind approach and landing, and determine that the applicant's performance meets the objective.

NOTE: If a crosswind condition does not exist, the applicant's knowledge of the TASK may be evaluated through oral testing.

F. TASK: GO-AROUND

PILOT OPERATION

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of a go-around procedure.
   b. Makes a go-around when one becomes necessary.
   c. Applies necessary power and establishes proper aircraft altitude to attain recommended climb airspeed.
   d. Maintains proper RPM and trims the helicopter and climbs at recommended airspeed, ±10 knots.
   e. Maintains desired track during climbout.

2. **Action.** The inspector will:

   a. Ask the applicant to explain the elements of a go-around, and determine that the applicant's knowledge meets the objective.
   b. Present a situation in which a go-around would be required, and determine that the applicant's performance meets the objective.

G. TASK: STRAIGHT-AND-LEVEL FLIGHT, CLIMBS, TURNS, AND DESCENTS

PILOT OPERATION

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining straight-and-level flight, climb, turn, and descent techniques and procedures.
   b. Maintains aircraft power within operating limits.
   c. Maintains the specified airspeed, ±10 knots.
   d. Maintains the selected altitude ±50 feet during straight-and-level flight and level turns.
   e. Maintains angle of bank, ±10º, of recommended bank during level, climbing, and descending turns.
   f. Maintains recommended power setting for climbs and descents.
   g. Levels off at the selected altitude, ±50 feet.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of straight-and-level flights, climbs, turns, and descents, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform straight-and-level flight, level turns, climbing and descending turns, and straight climbs and straight descents, and determine that the applicant's performance meets the objective.

V. CROSS-COUNTRY FLIGHT OPERATIONS

A. TASK: PILOTAGE AND DEAD RECKONING

Refer to FAA PTS.

B. TASK: RADIO NAVIGATION

Refer to FAA PTS.

C. TASK: DIVERSION TO ALTERNATE

Refer to FAA PTS.

D. TASK: LOST PROCEDURES

Refer to FAA PTS.

VI. FLIGHT MANEUVERS

A. TASK: RUNNING TAKEOFF

Refer to FAA PTS.

B. TASK: RUNNING LANDING

PILOT OPERATION

NOTE: At the discretion of the inspector, this TASK may be verbally tested.

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of shallow approaches and running landings, including situations requiring this procedure.
b. Maintains aircraft power within operating limits.

c. Establishes descent at the recommended airspeed and proper approach angle.
d. Maintains the proper approach angle and the recommended airspeed to a point approximately 50 feet AGL.
e. Makes a smooth transition from descent to surface contact while still in effective translational lift, using less than hovering power. (NOTE: 5 PSI torque less than hover power may be used to simulate maximum power available.)
f. Contacts the surface in a level attitude beyond and within 50 feet of a designated spot.
g. Corrects properly for crosswind.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a running landing, including situations requiring this procedure; and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a running landing, and determine that the applicant's performance meets the objective.

C. TASK: CONFINED AREA OPERATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge of confined area.
b. Performs a high reconnaissance to:

(1) Evaluate wind, terrain, and obstructions.
(2) Select a proper approach path, touchdown point, and departure path.

c. Tracks the selected approach path toward the touchdown point at an acceptable approach angle.
d. Performs a low reconnaissance during the approach to verify findings on the high reconnaissance.
e. Terminates the approach, either to a hover or to the surface, as appropriate, at the selected touchdown point.
f. Performs a ground reconnaissance to:

(1) Evaluate wind and obstructions.
(2) Select a proper takeoff point.
(3) Plan a safe hover taxi.
(4) Select ground markers, if required.

g. Performs a proper takeoff, safely clears obstructions, and tracks the preselected departure path.
h. Maintains aircraft power within operating limits.

2. Action. The inspector will:

a. Ask the applicant to explain the principles and techniques involved in confined area operations, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a confined area operation, and determine that the applicant's performance meets the objective.

D. TASK: PINNACLE OPERATIONS

Refer to FAA PTS.

E. TASK: SLOPE OPERATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of slope operations.
b. Selects a suitable slope and plans the approach and landing direction considering wind effect, obstructions, and off-loading occupants.
c. Hover taxies slowly to the selected slope, heads into the wind (headwind component), and positions to land cross-slope--and avoids turning the tail rotor upslope while positioning.
d. Makes a smooth positive descent to touch the upslope skid on the sloping surface.
e. Maintains a stabilized level attitude momentarily before lowering the downslope skid to touchdown.
f. Recognizes when the slope is too steep and abandons the landing prior to using full-lateral "upslope" cyclic control.
g. Avoids overcontrolling and abrupt, erratic cyclic, collective, or antitorque pedal technique.
h. Makes a smooth transition from the slope to a stabilized level attitude momentarily prior to lifting off vertically to a hover.
i. Makes a smooth transition from the slope to a stabilized hover parallel to the slope.
j. Moves slowly away from the slope and avoids turning tail upslope.
k. Maintains specified heading, ±5º, during slope landings and takeoffs.
l. Maintains aircraft power within operating limits.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of slope operations, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a slope landing and takeoff, and determine that the applicant's performance meets the objective.

F. TASK: RAPID DECELERATION

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of rapid decelerations.
b. Initiates maneuvers properly.
c. Decelerates and terminates in a stationary hover at recommended hovering altitude.
d. Maintains heading, ±10º.
e. Maintains aircraft power within operating limits.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of a rapid deceleration, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a rapid deceleration, and determine that the applicant's performance meets the objective.

G. TASK: AUTOROTATIVE DESCENTS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the elements of autorotative descents.
b. Performs an autorotative descent by:

(1) Entering the maneuver at the proper position.
(2) Maintaining rotor RPM within acceptable limits.
(3) Maintaining proper pedal trim.
(4) Arriving at the selected point with proper altitude, landing attitude, and acceptable rotor RPM and groundspeed.

c. Terminates the autorotation by performing a power recovery to a hover, completing the maneuver within 50 feet of the preselected point.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of autorotative descents, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a 180º autorotation to a selected touchdown point, and determine that the applicant's performance meets the objective.

VII. EMERGENCY OPERATIONS

A. TASK: POWER FAILURE AT A HOVER

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the procedures to use when power failure occurs at a hover.
b. Establishes either a stationary or forward hover into the wind at recommended RPM.
c. Performs hovering autorotation.
d. Touches down with acceptable forward movement, minimum sideward movement, and no backward movement, and without excessive loads on landing gear.
e. Maintains heading, ±5º.

2. Action. The inspector will:

a. Ask the applicant to explain the procedures to use when power failure occurs at a hover, and determine that the applicant's knowledge meets the objective.
b. Request a simulative power failure in either a stationary or a forward hover, and determine that the applicant's performance meets the objective.

B. TASK: POWER FAILURE AT ALTITUDE (SINGLE ENGINE)

PILOT OPERATION

NOTE: No simulated power failure will be given where an actual touchdown could not be safely completed if it should become necessary, or where an autorotative descent might constitute a violation of Federal Aviation Regulations. The inspector will direct the applicant to terminate this TASK in a power recovery at an altitude high enough to assure that a safe touchdown could be accomplished in the event of an actual power failure.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining autorotation and landing procedures following power failure at altitude.
   b. Enters autorotation promptly when inspector simulates power failure by:

      (1) Lowering the collective pitch, as necessary, to maintain rotor RPM within acceptable limits.
      (2) Establishing the recommended autorotation airspeed.

   c. Follows autorotation pattern and:

      (1) Selects a suitable landing area.
      (2) Establishes an autorotation pattern appropriate for position, altitude, and wind conditions.
      (3) Maintains aircraft within operating limits.
      (4) Maintains proper pedal trim.
      (5) Arrives at the selected area with proper altitude, landing attitude, and acceptable rotor RPM and groundspeed.

   d. Terminates the autorotation when directed by the inspector by performing a power recovery.

2. **Action.** The inspector will:

   a. Ask the applicant to explain autorotative and landing procedures following power failure at altitude, and determine that the applicant's knowledge meets the objective.
   b. Simulate power failure at altitude, and determine that the applicant's performance meets the objective.

C. TASK: PARTIAL POWER FAILURE (ONE ENGINE INOPERATIVE)

PILOT OPERATION

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge of partial power failure.
   b. Recognizes partial power failure during a hover or while at cruise.
   c. Selects a suitable touchdown area, if appropriate, and terminates at that area by:

      (1) Making an approach to the surface, using power available, or
      (2) Making an autorotative descent, using power available during the touchdown.

d. Makes a cockpit check, if time permits, to identify and/or correct the cause for the power loss.
e. Maintains rotor RPM within acceptable limits.
f. Completes an approach to a safe touchdown.

2. Action. The inspector will:

a. Ask the applicant to explain the techniques and procedures used in partial power failure, and determine that the applicant's knowledge meets the objective.
b. Limit power output during hover or cruise flight, and determine that the applicant's performance meets the objective.

D. TASK: SYSTEM AND EQUIPMENT MALFUNCTIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining causes, indications, and pilot actions for various system and equipment malfunctions.
b. Analyzes the situation and takes appropriate action for simulated emergencies, such as:

(1) Rough running engine.
(2) Induction icing.
(3) Fuel starvation.
(4) Smoke in the cockpit.
(5) Engine compartment fire.
(6) Electrical system malfunction.
(7) Hydraulic malfunction.
(8) Trim inoperative.
(9) Other malfunctions indicated by warning devices.

2. Action. The inspector will:

a. Ask the applicant to explain the causes, indications, and pilot action for various systems and equipment malfunctions; and determine that the applicant's knowledge meets the objective.
b. Simulate various systems and equipment malfunctions, and determine that the applicant's performance meets the objective.

E. TASK: ANTI-TORQUE SYSTEM FAILURE

PILOT OPERATION

NOTE: At the discretion of the inspector, this TASK may be verbally tested.

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining anti-torque system failure procedures while hovering and at altitude.
b. Recognizes simulated anti-torque failure in a hover or in cruising flight and takes immediate and proper action.

2. Action. The inspector will:

a. Ask the applicant to explain the procedures used when anti-torque system failure occurs, and determine that the applicant's knowledge meets the objective.
b. Simulate anti-torque failure, and determine that the applicant's performance meets the objective.

F. TASK: SETTLING-WITH-POWER

PILOT OPERATION

NOTE: At the discretion of the inspector, this TASK may be verbally tested.

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining the conditions which cause settling-with-power and the procedure used to recover to normal flight.
b. Selects an entry altitude that allows a recovery to be completed no less than 1,000 feet AGL.
c. Demonstrates settling-with-power entry.
d. Recovers immediately and correctly at first indications of settling-with-power.

2. Action. The inspector will:

a. Ask the applicant to explain the conditions which cause settling-with-power and the technique required for recovery, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to enter settling-with-power and recover to normal flight, and determine that the applicant's performance meets the objective.

G. TASK: LOW ROTOR RPM RECOVERY

PILOT OPERATION

NOTE: At the discretion of the inspector, this TASK may be verbally tested for governed engine helicopters.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the conditions which cause low rotor RPM and the procedure used to recover.
   b. Recognizes low rotor RPM and takes immediate and proper recovery action.

2. **Action.** The inspector will:

   a. Ask the applicant to explain the conditions which cause low rotor RPM and the proper procedure used for recovery, and determine that the applicant's knowledge meets the objective.
   b. Set the engine RPM at the low limit of the normal operating range, restrict the applicant's use of the throttle, and ask the applicant to regain normal operating RPM, and determine that the applicant's performance meets the objective.

H. TASK: DYNAMIC ROLLOVER

PILOT OPERATION

NOTE: This TASK will be verbally tested ONLY.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining helicopter lateral rolling tendencies during certain ground operations.
   b. Understands the interaction between tail rotor thrust, crosswind, slope, CG, and cyclic and collective pitch control in contributing to dynamic rollover.
   c. Demonstrates preventive flight technique during takeoffs, landings, and slope operations.

2. **Action.** The inspector will ask the applicant to explain how tail rotor thrust, crosswind, slope, CG, and cyclic and collective pitch control contribute to lateral roll, and determine that the applicant's knowledge meets the objective.

I. TASK: GROUND RESONANCE

PILOT OPERATION

NOTE: This TASK will be verbally tested ONLY.

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the hazards associated with ground resonance.
   b. Understands the conditions that contribute to ground resonance.
   c. Demonstrates preventive flight technique during takeoff, landings, and slope operations, if appropriate.

2. **Action.** The inspector will ask the applicant to explain causes of ground resonance and required corrective action, and determine that the applicant's knowledge meets the objective.

VIII. SPECIAL USE

A. TASK: RECONNAISSANCE AND SURVEILLANCE (LOW LEVEL)

PILOT OPERATION

1. **Objective.** To determine that the applicant:

   a. Exhibits a thorough knowledge of helicopter flight in the low level environment.
   b. Exhibits thorough knowledge of the effects of temperatures and pressure altitudes (density altitude) on the performance of helicopters in low level environment.
   c. Exhibits thorough knowledge of winds and turbulence that are common to low level flight (including both vertical and horizontal components) and affect aircraft performance.
   d. Exhibits thorough knowledge of helicopter performance planning using the appropriate performance charts and helicopter load calculation form.
   e. Exhibits thorough knowledge of aerodynamic considerations of low level flight including hover in ground effect versus hover out of ground effect, loss of effective translational lift, loss of tail-rotor effectiveness, settling with power height velocity diagram, and loss of lift due to density altitude conditions.
   f. Demonstrates proper reconnaissance techniques in determining winds, obstacles, wire avoidance techniques, forced landing areas, escape routes, and helicopter performance.
   g. Demonstrates proper judgment and understands the importance of evaluating risks in relation to the mission being performed.

2. Action. The inspector will:

a. Ask the applicant to discuss helicopter flight in low level environment. Points to be included should be winds, turbulence, temperatures, density altitude, geography, performance planning and limitations, proper reconnaissance, aerodynamic considerations, emergency procedures, and risk analysis.

b. Ask the applicant to demonstrate proper performance planning to include:

(1) Accurate completion of load calculation forms.

(2) Determine whether the mission flight profile will be in-ground or out-of-ground effect.

c. Ask the applicant to demonstrate proper low level reconnaissance and wind finding techniques, and determine the applicant's performance meets the objective.

B. TASK: MOUNTAIN FLYING

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits a thorough knowledge of helicopter flight in mountainous environments.
b. Exhibits knowledge of landing areas and terrain associated with mountain geography throughout the United States including ridges, pinnacles, confined areas, saddles, cirques, glaciers, snow fields, and canyons.
c. Exhibits thorough knowledge of the effects of temperatures and pressure altitudes (density altitude) on the performance of helicopters in mountainous terrain.
d. Exhibits thorough knowledge of winds and turbulence that are common to mountain flight (including both vertical and horizontal components) and effect aircraft performance.
e. Exhibits knowledge of weather associated with mountain geography (i.e., thunderstorms and convective, mechanical and wind shear turbulence).
f. Exhibits thorough knowledge of helicopter performance planning using the appropriate performance charts and helicopter load calculation form.
g. Exhibits thorough knowledge of aerodynamic considerations of mountain flight including hover in-ground effect versus hover out-of-ground effect, loss of tail-rotor effectiveness, settling with power, dynamic rollover, and loss of lift due to density altitude conditions.

h. Demonstrates proper reconnaissance techniques in determining suitability of the landing area, winds, obstacles, approach, and departure paths, forced landing areas, escape routes, and helicopter performance.
i. Selects appropriate approach path and angle to the intended landing area while demonstrating proper power management.
j. Completes low reconnaissance during approach, considering additional obstacles, slopes, and the intended touchdown point. Go-around decision should take place prior to descending below the height of the barriers or losing effective translational lift.
k. Terminates the approach, either to a hover or to the surface, as appropriate at the selected touchdown point.
l. Completes thorough and accurate ground reconnaissance.
m. Verifies performance and power is available for successful departure from the landing area prior to takeoff.
n. Selects appropriate takeoff procedures, departure path, obstacle clearance, and forced landing areas.
o. Demonstrates proper judgment and understands the importance of evaluating risks in relation to the mission being performed.

2. Action. The inspector will:

a. Ask the applicant to discuss helicopter flight in mountainous terrain. Points to be included should be winds, turbulence, temperatures, density altitude, geography, performance planning and limitations, proper reconnaissance, landing and takeoff procedures, aerodynamic considerations, emergency procedures, and risk analysis.

b. Ask the applicant to demonstrate proper performance planning to include:

(1) Accurate completion of load calculation forms.
(2) Determine whether the takeoff and landing area is in-ground or out-of-ground effect.

c. Ask the applicant to demonstrate proper reconnaissance and wind finding techniques.

d. Ask the applicant to perform a minimum of two approaches and takeoffs to a ridgeline, pinnacle, and confined area.

C. TASK: EXTERNAL LOAD (SLING)

PILOT OPERATION

1. **Objective.** To determine that the applicant:

   a. Exhibits knowledge by explaining the elements of external load operations.
   b. Performs a thorough pre-flight briefing of ground personnel to include hookup procedures, hand signals, and pilot and ground personnel actions in the event of an emergency or hook malfunction.
   c. Visually determines that the cargo hook is installed properly and both electrical and manual releases are functioning properly.
   d. Ascends vertically while centered over the load until the load clears the ground.
   e. Maintains positive control of the load throughout the flight while maintaining specified altitude within 50 feet, airspeed within 10 knots, and heading within 10°.
   f. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover with the load 5 feet above the ground and within 5 feet of the specified release/touchdown point.
   g. Maintains contact with and observes the directions of ground personnel through radio communications or standard hand signals.

2. **Action.** The inspector will:

   a. Ask the applicant to explain the elements of external load operations, and determine that the applicant's knowledge meets the objective.
   b. Ask the applicant to perform an external load operation, and determine that the applicant's performance meets the objective.

D. TASK: FIRE SUPPRESSION/HELITACK

PILOT OPERATION

1. **Objective.** Reserved.

2. **Action.** Reserved.

E. TASK: RETARDANT/WATER DROPPING

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits a basic knowledge of wildland fire operations.
b. Exhibits knowledge of communications and coordination required with other aircraft and ground forces.
c. Exhibits knowledge of aircraft modifications (switch placement/operations, wiring/plugs, mirror) and equipment (bucket/tank).
d. Explain relationship between airspeed and altitude and its effect on coverage level.
e. Maintains adequate obstacle clearance and appropriate flight paths and speeds with empty bucket.
f. Selects suitable fill site(s), including hazard recon and recognizing hazards of moving water.
g. Stabilizes in hover prior to submerging bucket.
h. With bucket submerged, maintains hover altitude (±1 foot), keeping cables clear.
i. Does not allow drift to exceed 5 feet in any direction.
j. Clears bucket from water and checks power prior to transition to forward flight.
k. Makes a smooth transition to forward flight, maintaining positive rate of climb, and heading (±10°).
l. Maintains obstacle clearance (minimum 50 feet).
m. Uses smooth control inputs to avoid bucket oscillation, keeps aircraft in trim, and maintains appropriate en route airspeed.
n. Determines target/hazard/wind prior to descending/slowing.
o. Maintains reserve power/airspeed in event of a go-around.
p. Maintains escape route.
q. Maintains approach angle that ensures obstacle clearance (minimum 50 feet).
r. Maintains heading (±10°) and ground track.
s. Release water on desired target with desired dispersal (spot or trail drop).
t. Thorough knowledge of emergency procedures as related to the bucket/tank.

2. Action. The inspector will:

a. Ask the applicant to discuss fire operations with a bucket. Points to be included should be basic fire behavior, effects of rotor wash, safety of ground personnel, communications, and knowledge of incident command organization.
b. Ask the applicant to demonstrate (on the ground) knowledge of switch placement and actuation, circuit breaker(s) location, bucket/tank wiring and hook-up, and preflight of the bucket/tank.
c. Ask the applicant to perform a minimum of two water drops (one spot and one dispersed) and determine that the applicant's performance meets the objective.

F. TASK: AERIAL IGNITION (HELITORCH/AERIAL IGNITION DEVICE)

NOTE: Three pilot operations are identified for this task: (1) Premo MK III, (2) Fusee, and (3) helitorch.

PILOT OPERATION - PREMO MK III

1. Objective. To determine the applicant:

a. Is qualified for basic helicopter fire operations including:

(1) Fire suppression/helitack.
(2) Bucket operations.

b. Has completed Premo Mk III ground training including:

(1) Basic Premo Mk III operations and maintenance.
(2) Installation and hookup procedures.
(3) Emergency procedures for the Premo Mk III.
(4) Required safety equipment.
(5) Required support personnel.
(6) Communications.
(7) Transportation of hazardous materials.

c. Was trained by one of the following:

(1) Premo Mk III qualified interagency inspector pilot.
(2) Agency training specialist.
(3) Qualified agency Premo Mk III instructor.
(4) Experienced Premo Mk III operator (2-year minimum).

d. Has a letter of training that:

(1) Confirms training to the above standards.
(2) Is signed by the instructor.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of Premo Mk III operations and determine that the applicant's knowledge meets the objective.
b. Secure a copy of the training letter to be placed in the pilot record folder.
c. Verify that the training was given by a qualified instructor.

PILOT OPERATION - FUSEE

1. Objective. To determine the applicant:

a. Is qualified for basic helicopter fire operations including:

(1) Fire suppression/helitack.
(2) Bucket operations.

b. Has completed fusee ground training including:

(1) Basic fusee dispenser operations and maintenance.
(2) Installation and hookup procedures.
(3) Emergency procedures for the fusee dispenser.
(4) Required safety equipment.
(5) Required support personnel.
(6) Communications.
(7) Transportation of hazardous materials.

c. Was trained by one of the following:

(1) Fusee qualified interagency inspector pilot.
(2) Agency training specialist.
(3) Qualified agency fusee instructor.
(4) Experienced fusee dispenser operator (2-year minimum).

d. Has a letter of training that:

(1) Confirms training to the above standards.
(2) Is signed by the instructor.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of fusee dispenser operations and determine that the applicant's knowledge meets the objective.
b. Obtain a copy of the training letter to be placed in the pilot record folder.
c. Verify that the training was given by a qualified instructor.

PILOT OPERATION - HELITORCH

1. Objective. To determine the applicant:

a. Is qualified for basic helicopter fire operations including:

(1) Fire suppression/helitack.
(2) Bucket operations.

b. Has completed helitorch ground training including:

(1) Basic helitorch operations and maintenance.
(2) Installation and hookup procedures.
(3) Emergency procedures for the helitorch.
(4) Required safety equipment.
(5) Required support personnel.
(6) Communications.
(7) Transportation of hazardous materials.
(8) Proper mixing of jell and loading of torch.
(9) Fire behavior.
(10) Fuel types and burn prescription requirements.
(11) Incident command structure.

c. Can operate the helitorch and maintain the burn within the block.

d. Was trained by one of the following:

(1) Agency training specialist.
(2) Qualified torch instructor.
(3) Qualified torch manager (2-year minimum).

e. Has a letter of training that:

(1) Confirms training to the above standards.
(2) Is signed by the instructor.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of helitorch operations and determine that the applicant’s knowledge meets the objective.
b. Ask the applicant to dispense a minimum of one barrel of jell at an actual burn site in accordance with a burn plan and under the direction of a burn boss or qualified aerial ignition instructor. The applicant will comply with the burn boss's directions or the qualified aerial ignition instructor's directions, and maintain the burn within the block.
c. Secure a copy of the training letter to be placed in the pilot record folder.
d. Verify that the training was conducted by a qualified instructor.

G. TASK: VERTICAL REFERENCE (LONGLINE)

PILOT OPERATION

1. Objective. To determine the applicant:

a. Exhibits knowledge by explaining the elements of external load operations.
b. Performs a thorough preflight briefing of ground personnel to include hookup procedures, hand signals, and pilot and ground personnel actions in the event of an emergency or hook malfunction.
c. Visually determines that the cargo hook(s) and cables are installed properly, and both electrical and manual releases are functioning properly.
d. Ascends vertically using vertical reference techniques while centered over the load until the load clears the ground, then maintains a stable hover with a load 10 feet (±5 feet) above the ground for 30 seconds. The applicant should insure that the longline does not become tangled on external parts of the helicopter.
e. Can control the hook movement and stop load oscillations while in a hover.
f. Maintains positive control of the load throughout the flight while maintaining specified altitude within 50 feet, airspeed within 10 knots, and heading within 10°.
g. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover with the load 10 feet above the ground (±5 feet) for 30 seconds. The load will then be placed within a 10-foot radius for the specified release/touchdown point.
h. Maintains the proper approach angle and rate of closure to establish an out-of-ground effect hover within a confined area with the load 10 feet above the ground (±5 feet) for 30 seconds. The load will then be placed within a 10-foot radius of the specified release/touchdown point.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of vertical reference operations, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a vertical reference operation, with a 100-150 foot longline and determine that the applicant's performance meets the objective.
c. Test the applicant's ability to regain control of the longline by taking control of the helicopter, including a sizeable oscillation in the longline, then returning the controls to the applicant.

H. RAPPELLING

PILOT OPERATION

1. Objective. To determine the applicant:

a. Exhibits knowledge by explaining the elements of rappel operations in accordance with the requirements of the *Interagency Helicopter Rappel Guide*.
b. Performs a thorough preflight briefing of rappel personnel to include briefing on model specific procedures, exit procedures, sequences, and emergency procedures.
c. Visually determines that the rappel anchor and associated hardware are properly installed and serviceable.
d. Demonstrates ability to properly communicate with the rappel spotter.
e. Maintains positive control of the aircraft while demonstrating proper power management techniques at 150 feet AGL ±10 feet, heading ±10°, and a horizontal drift less than 10 feet. Applicant will hold this position for a minimum of 3 minutes.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of rappel operations, including associated emergency procedures, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform a rappel operation at a minimum altitude of 150 feet AGL, and determine that the applicant's performance meets the objective.

I. TASK: SNOW OPERATIONS

PILOT OPERATION

1. Objective. To determine that the applicant:

a. Exhibits knowledge by explaining how to operate a helicopter safely in snow conditions, including required equipment.
b. Selects proper landing site, considering slope, hidden obstructions, snow conditions (whiteout potential), and any other variables unique to that site.
c. Initiates approach and landing, maintaining visual contact with the ground/ground reference point, while limiting hover time and preferably making the approach to the ground.

d. Exhibits proper judgment that the helicopter is securely settled into the snow prior to reducing power or shutting down.
e. Exhibits proper liftoff, takeoff, and departure procedures.

2. Action. The inspector will:

a. Ask the applicant to explain hazards of operating in snow conditions such as whiteouts, power/blowing snow, sloping terrain, hidden obstructions, crusted snow, etc.
b. Ask the applicant to explain and demonstrate approach and landing techniques into blowing snow and conditions where depth perception is in question. Execute an approach to the ground with limited hover time.
c. Ask applicant to explain and demonstrate techniques for insuring that the aircraft is securely settled into the snow and is not sitting on hidden hazards or crusted snow.
d. Ask applicant to explain and demonstrate liftoff, takeoff, and departure procedures to include stuck skids, dynamic rollover, and wind direction. Whenever possible out-of-ground effect capability should be available to lift out of blowing snow conditions.

J. TASK: SHORTHAUL

PILOT OPERATION

1. Objective. To determine the applicant:

a. Exhibits knowledge by explaining the elements of shorthaul operations.
b. Performs a thorough preflight briefing of personnel to include hookup procedures, hand signals, and pilot and other personnel actions in the event of an emergency.
c. Visually determines that the personnel attach system(s) are attached properly and are functional.
d. With a non-human load and maximum line length appropriate for using unit:

(1) Ascends vertically using vertical reference techniques while centered over the load until the load clears the ground, then maintains a stable hover with the load 8 feet (±4 feet) above the ground with little or no swing in any direction for one minute.
(2) Flies a traffic pattern where the airspeed reaches at least 50 knots, maintaining positive control of the load with airspeed within 5 knots of selected airspeed, altitude within 40 feet of selected altitude, and heading within 10 degrees of selected heading.

(3) Maintains a proper approach angle and rate of closure to establish an out-of-ground effect hover with the load 8 feet (±4 feet) above the ground at a stable hover with little or no swing in any direction for one minute.
(4) Places the load on the ground within 8 feet of a predetermined point.

e. With a non-human load, maximum line length appropriate for the using unit and an on-board spotter (if the using unit uses on-board spotters):

(1) Repeats steps 1.d (1) through (4).
(2) Places the simulated shorthaul load in a variety of field locations appropriate for the using unit. This should include confined areas, cliff sides, confined ridgelines, confined pinnacles, and areas of moving water (as appropriate). If the using unit is operating in areas where lighting variations or background contrast is a factor, operations under these conditions will be demonstrated.
(3) Demonstrates total control of the load at all times, with little or no swing in any direction, and control of vertical rates of movement.

f. With a human load, maximum line length appropriate for the using unit and a spotter:

(1) Repeats steps 1.d (1) through (4).
(2) Repeats steps 1.e (2) and (3).

2. Action. The inspector will:

a. Ask the applicant to explain the elements of shorthaul operations and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform shorthaul operations within parameter appropriate for the using unit, and determine that the applicant's performance meets the objective.
c. Upon the applicant's satisfactory demonstration of knowledge and skills, the inspector will endorse the pilot card for shorthaul with a notation of the maximum length line and the operational unit for which approved.

K. TASK: AERIAL CAPTURE, ERADICATION AND TAGGING OF ANIMALS (ACETA)

NOTE: Priority of flight evaluation:

1. **Use a live animal (primary selection).**
2. **Use a live animal (secondary) with characteristics similar to the primary.**
3. **Use a simulated primary (moving).**
4. **Use a simulated primary (static).**
5. **Discussion and oral test.**

NOTE: Four pilot operations are identified for this task: (1) animal herding, (2) animal eradication, (3) animal marking and darting, and (4) net gun.

PILOT OPERATION - ANIMAL HERDING

1. Objective. To determine the applicant:

a. Exhibits the knowledge by explaining the elements of animal herding in accordance with the *DOI ACETA Handbook,* and his currency in capture techniques for selected animals to include animal behavior and last capture date.
b. Understands the aircraft equipment requirements to include shoulder harness.
c. Understands the aircraft weight and balance data to include c.g. limits, HOGE/HIGE, elevation, and terrain considerations.
d. Performs a thorough preflight briefing with all capture personnel. This briefing will include the sequence of events and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with capture personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during herding operations.
h. Is knowledgeable of the flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during herding operations.
j. Is consistently successful in moving animals to the capture site.

2. Action. The Inspector will:

a. Ask the applicant to explain the elements of animal herding operations and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform animal herding operations and determine that the applicant's performance meets the objective.
c. Upon the applicant's satisfactory demonstration of knowledge and skills, the inspector will endorse the applicant's pilot card with a notation "animal herding." Other limitations may be noted at the discretion of the inspector.

PILOT OPERATION - ANIMAL ERADICATION

1. Objective. To determine the applicant:

a. Exhibits the knowledge by explaining the elements of animal eradication in accordance with the *DOI ACETA Handbook,* and his currency in animal eradication techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and pilot, and personal ELT.
c. Understands the aircraft weight and balance data to include c.g. limits, HOGE/HIGE, elevations, and terrain considerations
d. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include pre-shot maneuvers, commands for firing, and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during eradication operations.
j. Is consistently successful placing the gunner in a position to shoot the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapon safety considerations, and shooting harness failure.

2. Action. The Inspector will:

a. Ask the applicant to explain the elements of animal eradication operations and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform animal eradication operations and determine that the applicant's performance meets the objective.
c. Upon the applicant's satisfactory demonstration of knowledge and skills, the inspector will endorse the applicant's card with a notation "animal eradication." Other limitations may be noted at the discretion of the inspector.

PILOT OPERATION - ANIMAL MARKING AND DARTING

1. Objective. To determine the applicant:

a. Exhibits the knowledge by explaining the elements of animal marking/darting in accordance with the *DOI ACETA Handbook*, and his currency in animal marking and/or darting techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and the pilot, and personal ELT.
c. Understands the aircraft weight and balance data to include c.g. limits, HOGE/HIGE, elevations, and terrain considerations.
d. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include pre-shot maneuvers, commands for firing, and emergency procedures.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during marking and darting operations.
j. Is consistently successful placing the gunner in a position to shoot the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapons safety considerations, and shooting harness failure.

2. Action. The Inspector will:

a. Ask the applicant to explain the elements of animal marking and/or darting operations, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform animal marking and/or darting operations and determine that the applicant's performance meets the objective.
c. Upon the applicant's satisfactory demonstration of knowledge and skills, the inspector will endorse the applicant's card with a notation "animal marking and/or darting." Other limitations may be noted at the discretion of the inspector.

PILOT OPERATION - NET GUN

1. Objective. To determine the applicant:

a. Exhibits the knowledge by explaining the elements of hand-held net gun operations in accordance with the *DOI ACETA Handbook*, and his currency in hand-held net gun techniques for selected animals to include animal behavior and last operation date.
b. Understands the aircraft equipment requirements to include shooting door, shoulder harness, shooting harness with appropriate anchor point, hot mic between the gunner and the pilot, and personal ELT.
c. Performs a thorough preflight briefing with all personnel to establish communication protocols between the gunner and the pilot to include pre-shot maneuvers, commands for firing, and emergency procedures.
d. Understands the aircraft weight and balance data to include c.g. limits, HOGE/HIGE, elevations, and terrain considerations.
e. Visually determines that personnel and equipment are secured in the aircraft.
f. Demonstrates ability to properly communicate with bureau personnel.
g. Maintains positive control of the aircraft while demonstrating proper power management during shooting operations.
h. Is knowledgeable of flight following requirements.
i. Demonstrates awareness of animal behavior in relation to the helicopter during net gun operations.
j. Is consistently successful placing the gunner in a position to net the target animal.
k. Demonstrates a thorough understanding of emergency procedures including aircraft mechanical problems, weapon safety considerations, net gun malfunctions, and shooting harness failure.

2. Action. The Inspector will:

a. Ask the applicant to explain the elements of hand-held net gun operations and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform hand-held net gun operations and determine that the applicant's performance meets the objective.
c. Upon the applicant's satisfactory demonstration of knowledge and skill, the inspector will endorse the applicant's card with a notation "hand held net gun." Other limitations may be noted at the discretion of the inspector.

L. TASK: OFFSHORE VESSEL OR PLATFORM OPERATIONS

PILOT OPERATION

1. Objective. To determine the applicant:

a. Exhibits knowledge by explaining the elements of offshore vessel and /or platform operations.
b. Performs a thorough preflight inspection of all equipment associated with the offshore operation, including fixed or popout float, survival equipment, and personal flotation devices.
c. Performs a thorough preflight briefing of all passengers and crew. The briefing will include sequence of events, exit procedures, and emergency procedures.
d. Demonstrates ability to use proper flight following and communications procedures.
e. Demonstrates proper procedures for safely approaching and landing on a vessel and/or platform. This will include: (1) the assurance that the landing deck is clear and the vessel or platform cranes are secure and present no safety hazard; (2) the wind evaluation; (3) the vessel movement; (4) the appropriate arming of popout floats (if installed).
f. Demonstrates proper procedures for safely departing a vessel and/or platform. This will include wind, in- or out-of-ground effect consideration, vessel movement, and disarming of popout floats.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of offshore vessel and/or platform operations, as appropriate, and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform offshore vessel and/or platform operations, as appropriate, and determine that the applicant's performance meets the objective.

M. TASK: TOE-IN, SINGLE SKID, AND STEP OUT OPERATIONS

PILOT OPERATION

1. Objective. To determine the applicant:

a. Exhibits knowledge by explaining the elements of power on toe-in, single skid, and step out operations.
b. Performs a thorough preflight briefing with all participants in the toe-in, single skid, and step out operations. This briefing will include, as a minimum, the sequence of events, communications procedures, hand signals, and emergency procedures.
c. Demonstrates ability to maintain positive control of the aircraft including: power management during passenger boarding and debarking from the helicopter (1) with only the skid toes (or front wheel[s] for wheeled helicopters) in contact with the ground, (2) with only one skid (or side wheel[s] for wheeled helicopters) in contact with the ground, and (3) from a hover.
d. Demonstrates awareness of settling with power and dynamic rollover, and the corrective actions for each.

2. Action. The inspector will:

a. Ask the applicant to explain the elements of toe-in, single skid, and step out helicopter operations; and determine that the applicant's knowledge meets the objective.
b. Ask the applicant to perform toe-in, single skid, and step out helicopter operations; and determine that the applicant's performance meets the objective.