

Pilot Practical Test Standards - Rotorcraft

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Commercial Pilot Practical Test Standards Rotorcraft

Use of the Practical Test Standards

The Commercial Pilot Rotorcraft Practical Test Standards have been designed to evaluate **competency in both knowledge and skill**. Commercial pilots are professionals engaged in various flight activities for compensation or hire. Because of their professional status, they should exhibit a significantly higher level of knowledge and skill than the private pilot.

The GACAR part 61 requires that all practical tests be conducted in accordance with the appropriate Commercial Pilot Practical Test Standards and the policies set forth in this Introduction. Commercial pilot applicants must be evaluated in all Tasks included in the Areas of Operation of the appropriate practical test standard unless otherwise noted.

Special Emphasis Areas

1. Positive aircraft control
2. Procedures for positive exchange of flight controls (who is flying the aircraft)
3. Collision avoidance
4. Wake turbulence avoidance
5. Runway incursion avoidance
6. CFIT
7. Wire strike avoidance
8. ADM and risk management
9. Checklist usage
10. Temporary Flight Restrictions (TFRs)
11. Special Use Airspace (SUA)
12. Aviation security
13. CRM
14. Other areas deemed appropriate to any phase of the practical test.

Aeronautical Decision Making and Risk Management.

Throughout the practical test, the examiner evaluates the applicant's ability to use good aeronautical decision-making procedures in order to identify risks.

E Book Volume 9 PRACTICAL TEST STANDARDS (PTS).

The Federal Aviation Administration (FAA) -S-8081-16B publishes airmen certification Practical Test Standards (PTS). The GACA has decided to utilize these standards when conducting airmen certification. The GACARs specify the areas in which knowledge and skill must be demonstrated by an applicant before a certificate can be issued. The PTS contain the specific tasks in which knowledge and competency must be demonstrated. When necessary, the GACA shall add, delete, or revise these tasks to enhance flight safety.

Examiner's Practical Test Checklist (Commercial)

Applicant's Name: _____

Location: _____ Date/Time: _

Area of Operation:

1. Preflight Preparation

- A. Certificates and Documents
- B. Airworthiness Requirements
- C. Weather Information
- D. Cross-Country Flight Planning
- E. National Airspace System
- F. Performance and Limitations
- G. Operation of Systems
- H. Aeromedical Factors
- I. Physiological Aspects of Night Flying Lighting and Equipment for Night Flying

2. Preflight Procedures

- A. Preflight Inspection
- B. Cockpit Management
- C. Engine Starting and Rotor Engagement
- D. Runway Incursion Avoidance
- E. Before Takeoff Check

3. Airport and Heliport Operations

- A. Radio Communications and ATC Light Signals
- B. Traffic Patterns
- C. Airport/Heliport, Runway, Helipad, and Taxiway, Signs, Markings, and Lighting

4. Hovering Maneuvers

- A. Vertical Takeoff and Landing
- B. Slope Operations
- C. Surface Taxi
- D. Hover Taxi
- E. Air Taxi

5. Takeoffs, Landings, and Go-Arounds

- A. Normal and Crosswind Takeoff and Climb
- B. Normal and Crosswind Approach
- C. Maximum Performance Takeoff and Climb
- D. Steep Approach
- E. Rolling Takeoff
- F. Shallow Approach and Running/Roll-On Landing
- G. Go-Around

6. Performance Maneuvers

- A. Rapid Deceleration
- B. Straight in Autorotation
- C. 180 Autorotation
- D. Approach and Landing with Simulated Powerplant Failure – Multiengine Rotorcraft

7. Navigation

- A. Pilotage and Dead Reckoning
- B. Radio Navigation and Radar Services
- C. Diversion
- D. Lost Procedures

8. Emergency Operations

- A. Power Failure at a Hover
- B. Power Failure at Altitude
- C. Systems and Equipment Malfunctions
- D. Settling-With-Power
- E. Low Rotor RPM Recovery
- F. Dynamic Rollover
- G. Ground Resonance
- H. Low G Conditions
- I. Emergency Equipment and Survival Gear

9. Special Operations

- A. Confined Area Operation
- B. Pinnacle/Platform Operations

10. Postflight Procedures

After Landing and Securing

I acknowledge that I have read and agree to the above instructions

Signature.....

Instrument Rating Practical Test **Standards Rotorcraft**

General Information

The General Authority of Civil Aviation of Saudi Arabia has developed this practical test as the standard that shall be used by GACA examiners when conducting instrument rating, Rotorcraft practical tests, and instrument proficiency checks for all aircraft. Applicants should be familiar with this PTS and refer to these standards during their training.

Use of the Practical Test Standards

The instrument rating practical test standards are designed to evaluate competency in both knowledge and skill. The GACA prat 61.89 requires that all practical tests be conducted in accordance with the appropriate practical test standards and the policies set forth in the Introduction. Instrumentrating applicants shall be evaluated in all Tasks included in the Areas of Operation of the appropriate practical teststandard (unless noted otherwise).

Special Emphasis Areas.

1. Positive aircraft control;
2. Positive exchange of the flight controls procedure (who is flying the aircraft);
3. Stall/spin awareness;
4. Collision avoidance;
5. Wake turbulence avoidance;
6. Land and hold short operations (LAHSO);
7. Runway incursion avoidance;
8. CFIT;
9. ADM and RM;
10. Checklist usage
11. Icing condition operational hazards, anti-icing and deicing equipment,
12. Other areas deemed appropriate to any phase of the practical test.

E Book Volume 9 PRACTICAL TEST STANDARDS (PTS).

The Federal Aviation Administration (FAA) -S-8081-4E publishes Instrument Rating Practical Test Standards (PTS). The GACA has decided to utilize these standards when conducting airmen certification. The GACARs specify the areas in which knowledge and skill must be demonstrated by an applicant before a certificate can be issued. The PTS contain the specific tasks in which knowledge and competency must be demonstrated. When necessary, the GACA shall add, delete, or revise these tasks to enhance flight safety.

Examiner's Practical Test Checklist

Applicant's Name: _____

Location: _____

Date/Time: _____

1. Preflight Preparation

- A. Pilot Qualifications
- B. Weather Information
- C. Cross-Country Flight Planning

2. Preflight Procedures

- A. Aircraft Systems Related to IFR Operations
- B. Aircraft Flight Instruments and Navigation Equipment
- C. Instrument Cockpit Check

3. Air Traffic Control Clearances and Procedures

- A. Air Traffic Control Clearances
- B. Compliance with Departure, En Route, and Arrival Procedures and Clearances
- C. Holding Procedures

4. Flight by Reference to Instruments

- A. Basic Instrument Flight Maneuvers
- B. Recovery from Unusual Flight Attitudes

5. Navigation Systems

- A. Intercepting and Tracking Navigational Systems and DME Arcs

6. Instrument Approach Procedures

- A. Nonprecision Approach (NPA)
- B. Precision Approach (PA)
- C. Missed Approach
- D. Circling Approach
- E. Landing from a Straight-in or Circling Approach

7. Emergency Operations

- A. Loss of Communications
- B. One Engine Inoperative During Straight-and-Level Flight and Turns (Multiengine Airplane)
- C. One Engine Inoperative—Instrument Approach (Multiengine Airplane)
- D. Loss of Primary Flight Instrument Indicators

8. Postflight Procedures

- A. Checking Instruments and Equipment

I acknowledge that I have read and agree to the above instructions

Signature.....

Airline Transport Pilot and Aircraft Type Rating

Practical Test Standards for Rotorcraft

General Information

The General Authority of Civil Aviation of Saudi Arabia has developed this practical test standard (PTS) book to be used by examiners when conducting airline transport pilot and aircraft type rating practical tests (knowledge of the equipment and flight tasks) in Rotorcrafts. Instructors are expected to use this book when preparing applicants for practical tests. Applicants should refer to these standards during their training.

Practical Test Standard Concept

The GACR part 61 specifies the areas in which knowledge and skills must be demonstrated by the applicant before the issuance of an airline transport pilot certificate and aircraft type rating in Rotorcrafts.

Use of the Practical Test Standards

The TASKS, in this practical test standard, are for Rotorcrafts. These TASKS apply to the applicant who seeks an airline transport pilot certificate; the addition of a category, class, or aircraft type rating on that certificate; and to the applicant who holds a private or commercial pilot certificate (must have proper category/class rating) and is seeking the addition of an aircraft type rating on that certificate.

Practical Test Prerequisites: Aircraft Type Rating

An applicant for a type rating in a Rotorcraft is required by GACA part 61 to have:

1. the applicable experience;
2. a minimum of a third-class medical certificate if a medical certificate is required;
3. the appropriate category and class rating;
4. received and logged ground training from an authorized ground or flight instructor and flight training from an authorized flight instructor, on the AREAS OF OPERATION in this practical test standard that apply to the aircraft type rating sought; and
5. received a logbook endorsement from the instructor who conducted the training, certifying that the applicant completed all the training on the AREAS OF OPERATION in this practical test standard that apply to the aircraft type rating sought.

Crew Resource Management (CRM)

1. COMMUNICATIONS PROCESSES AND DECISIONS
2. BUILDING AND MAINTENANCE OF A FLIGHT TEAM
3. WORKLOAD MANAGEMENT AND SITUATIONAL AWARENESS

E Book Volume 9 PRACTICAL TEST STANDARDS (PTS)

The Federal Aviation Administration (FAA) S-8081-20 publishes Instrument Rating Practical Test Standards (PTS). The GACA has decided to utilize these standards when conducting airmen certification. The GACARs specify the areas in which knowledge and skill must be demonstrated by an applicant before a certificate can be issued. The PTS contain the specific tasks in which knowledge and competency must be demonstrated. When necessary, the GACA shall add, delete, or revise these tasks to enhance flight safety.

Airline Transport Pilot and Aircraft Type Rating Practical Test Standards - Rotorcraft

The AREAS OF OPERATION are divided into two sections. The first AREA OF OPERATION in each section is conducted on the ground to determine the applicant's knowledge of the aircraft, equipment, performance, and limitations. The eight AREAS OF OPERATION in the second section are considered to be in flight. All eight AREAS OF OPERATION in the second section test the applicant's skill and knowledge.

SECTION 1 — PREFLIGHT PREPARATION

A. TASK: EQUIPMENT EXAMINATION

Objective. To determine that the applicant:

1. Exhibits adequate knowledge appropriate to the Rotorcraft; its systems and components; its normal, abnormal, and emergency procedures; and uses the correct terminology with regard to the following items—
 - a. Landing gear—indicators, brakes, tires, nosewheel steering, skids, and shocks.
 - b. Powerplant—controls and indications, induction system, carburetor and fuel injection, exhaust and turbocharging, cooling, fire detection/protection, mounting points, turbine wheels, compressors, and other related components.
 - c. Fuel system—capacity; drains; pumps; controls; indicators; crossfeeding; transferring; jettison; fuel grade, color and additives; fueling and defueling procedures; and emergency substitutions, if applicable.
 - d. Oil system—capacity, grade, quantities, and indicators.
 - e. Hydraulic system—capacity, pumps, pressure, reservoirs, grade, and regulators.
 - f. Electrical system—alternators, generators, battery, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.
 - g. Environmental systems—heating, cooling, ventilation, oxygen and pressurization, controls, indicators, and regulating devices.
 - h. Avionics and communications—autopilot; flight director; Flight Management System(s) (FMS); Long Range Navigation (LORAN) systems; Inertial Navigation Systems (INS); Global Positioning System (GPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter.
 - i. Ice protection—anti-ice, deice, pitot-static system protection, windshield, airfoil surfaces, and rotor protection.
 - j. Crewmember and passenger equipment—oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers and passengers.
 - k. Main/tail rotor systems—transmissions, gear boxes, oil/fluid levels, tolerances, rotor brake if installed, and limitations.
 - l. Pitot-static system with associated instruments and the power source for the flight instruments.

B. TASK: PERFORMANCE AND LIMITATIONS

Objective. To determine that the applicant:

1. Exhibits adequate knowledge of performance and limitations, including a thorough knowledge of the adverse effects of exceeding any limitation.
2. Demonstrates proficient use of (as appropriate to the Rotorcraft) performance charts, tables, graphs, or other data relating to items such as—
 - a. Takeoff performance—all engines, engine(s) inoperative.
 - b. Climb performance—all engines, engine(s) inoperative, and other engine malfunctions.
 - c. Service ceiling—all engines, engines(s) inoperative.
 - d. Cruise performance.
 - e. Fuel consumption, range, and endurance.
 - f. Descent performance.
 - g. Go-around from rejected landings.
 - h. Hovering in and out of ground effect.
 - i. Other performance data (appropriate to the Rotorcraft).
3. Describes (as appropriate to the Rotorcraft) the performance airspeeds used during specific phases of flight.
4. Describes the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph or other performance data.
5. Computes the center-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight.
6. Determines if the computed center of gravity is within the forward, aft, and lateral (if applicable) center-of-gravity limits for takeoff and landing.
7. Demonstrates good planning and knowledge of procedures in applying operational factors affecting Rotorcraft performance.

SECTION 2

PREFLIGHT PROCEDURES, INFLIGHT MANEUVERS, AND POSTFLIGHT PROCEDURES

AREAS OF OPERATION

- 1. PREFLIGHT PROCEDURES**
 - A. PREFLIGHT INSPECTION
 - B. POWERPLANT START
 - C. TAXIING
 - D. PRETAKEOFF CHECKS

- 2. TAKEOFF AND DEPARTURE PHASE**
 - A. NORMAL AND CROSSWIND TAKEOFF
 - B. INSTRUMENT TAKEOFF
 - C. POWERPLANT FAILURE DURING TAKEOFF
 - D. REJECTED TAKEOFF
 - E. INSTRUMENT DEPARTURE

- 3. INFLIGHT MANEUVERS**
 - A. STEEP TURNS
 - B. POWERPLANT FAILURE - MULTIENGINE ROTORCRAFT
 - C. POWERPLANT FAILURE - SINGLE-ENGINE ROTORCRAFT
 - D. RECOVERY FROM UNUSUAL ATTITUDES
 - E. SETTLING-WITH-POWER

- 4. INSTRUMENT PROCEDURES**
 - A. INSTRUMENT ARRIVAL
 - B. HOLDING
 - C. PRECISION INSTRUMENT APPROACHES
 - D. NONPRECISION INSTRUMENT APPROACHES
 - E. MISSED APPROACH

- 5. LANDINGS AND APPROACHES TO LANDINGS**
 - A. NORMAL AND CROSSWIND APPROACHES AND LANDINGS
 - B. APPROACH AND LANDING WITH SIMULATED POWERPLANT FAILURE - MULTIENGINE ROTORCRAFT
 - C. REJECTED LANDING

- 6. LANDINGS AND APPROACHES TO LANDINGS**
 - A. NORMAL AND CROSSWIND APPROACHES AND LANDINGS
 - B. APPROACH AND LANDING WITH SIMULATED POWERPLANT FAILURE-MULTIENGINE ROTORCRAFT
 - C. REJECTED LANDING

- 7. NORMAL AND ABNORMAL**
 - A. PROCEDURES EMERGENCY
 - B. PROCEDURES POSTFLIGHT
 - C. PROCEDURES
 - i. AFTER-LANDING PROCEDURES
 - ii. PARKING AND SECURING

I acknowledge that I have read and agree to the above instructions

Signature.....