U.S. Department
of Transportation

**Federal Aviation
Administration**

FAA-S-8081-7C

Flight Instructor
Practical Test Standards
for
Rotorcraft Category
Gyroplane Rating

November 2023

Flight Standards Service
Washington, DC 20591

Foreword

FAA-S-8081-7C, Flight Instructor Practical Test Standards for Rotorcraft Category Gyroplane Rating is published by the FAA to establish the standards for flight instructor certification practical tests for the rotorcraft category, gyroplane class. FAA inspectors and designated evaluators shall conduct practical tests in compliance with these standards. Instructors and applicants should find these standards helpful in practical test preparation.

FAA-S-8081-7C supersedes FAA-S-8081-7B, Flight Instructor Practical Test Standards Rotorcraft (Helicopter and Gyroplane) with Changes 1, 2, and 3, dated December 2006.

Major Enhancements to Version FAA-S-8081-7C

- Updated References throughout
- Changed “cockpit” to “flight deck” throughout
- Changed “student” to “learner” throughout
- Removed “Helicopter” section
- Introduction:
  - Updated “General Information” section
  - Revised “Flight Instructor Practical Test Standards Description” section
  - Updated “Abbreviations” section
  - Updated “Special Emphasis Areas” section
  - Removed “Performance of Autorotations” section

Table of Contents

Areas of Operation

Introduction

General Information

The FAA has developed the PTS for use by FAA inspectors and examiners when conducting the practical test.

Throughout this PTS the following titles will be referred to as an evaluator: ASI, pilot examiner (other than administrative pilot examiners), TCE, chief instructor, assistant chief instructor, or check instructor of pilot school holding examining authority.

Information considered directive in nature is described in this PTS in terms such as “shall” and “must,” indicating the actions are mandatory. Guidance information is described in terms such as “should” and “may,” indicating the actions are desirable or permissive, but not mandatory.

This PTS is available for download, in PDF format, from www.faa.gov.

Comments regarding this PTS may be emailed to acsptsinquiries@faa.gov.

PTS Concept

14 CFR part 61 specifies the subject areas in which knowledge and skill must be demonstrated by the applicant before the issuance of a certificate. The practical test standards contain the Areas of Operation and specific Tasks in which competency shall be demonstrated. The FAA will revise this PTS whenever it is determined that changes are needed in the interest of safety. Per 14 CFR part 61, section 61.43, adherence to provisions of the practical test standards is mandatory.

Initial Flight Instructor Certification

An applicant who seeks initial flight instructor certification shall be evaluated in all Areas of Operation of the standard appropriate to the rating(s) sought. The evaluation shall include at least one Task in each Area of Operation and shall always include the required Tasks.

Addition of Aircraft Category and/or Class Ratings to a Flight Instructor Certificate

An applicant who holds a flight instructor certificate and seeks an additional aircraft category and/or class rating shall be evaluated in at least the Areas of Operation and Tasks that are unique and appropriate to the rating(s) sought, pursuant to the additional rating table contained in the respective PTS. At the discretion of the evaluator, an applicant's competence in all Areas of Operation may be evaluated.

Flight Instructor PTS Description

The Flight Instructor Practical Test Standards include the Areas of Operation and Tasks for the issuance of an initial flight instructor certificate and for the addition of category and/or class ratings to that certificate.

Areas of Operation are phases of the practical test arranged in a logical sequence within this standard. They begin with Fundamentals of Instructing and end with Postflight Procedures. The evaluator may conduct the practical test in any sequence that will result in a complete and efficient test**.** However, the ground portion of the practical test must be accomplished before the flight portion.

Tasks are titles of knowledge areas, flight procedures, or maneuvers appropriate to an Area of Operation.

Note is used to emphasize special considerations required in the Area of Operation or Task.

Reference identifies the publication(s) that describe(s) the Task. Descriptions of Tasks are not included in the standards because this information can be found in the current issue of the listed reference. Publications other than those listed may be used, for references if their content conveys substantially the same meaning as the referenced publications.

This PTS is based on the following reference list:

14 CFR part 1	Definitions and Abbreviations
14 CFR part 21	Certification Procedures for Products and Articles
14 CFR part 27	Airworthiness Standards: Normal Category Rotorcraft
14 CFR part 39	Airworthiness Directives
14 CFR part 43	Maintenance, Preventative Maintenance, Rebuilding, and Alteration
14 CFR part 61	Certification: Pilots, Flight Instructors, and Ground Instructors
14 CFR part 67	Medical Standards and Certification
14 CFR part 71	Designation of Class A, B, C, D, and E Airspace Areas; Air Traffic Service Routes; and Reporting Points
14 CFR part 91	General Operating and Flight Rules
49 CFR part 830	Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records
FAA-H-8083-1	Aircraft Weight and Balance Handbook
FAA-H-8083-9	Aviation Instructor's Handbook
FAA-H-8083-21	Rotorcraft Flying Handbook
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8083-28	Aviation Weather Handbook
AC 60-28	FAA English Language Standards for an FAA Certificate Issued Under 14 CFR Parts 61, 63, 65, and 107
AC 61-65	Certification: Pilots and Flight and Ground Instructors
AC 61-98	Currency Requirements and Guidance for the Flight Review and Instrument Proficiency Check
FAA-S-8081-15	Private Pilot Practical Test Standards for Rotorcraft - Gyroplane
FAA-S-8081-16	Commercial Pilot Practical Test Standards for Rotorcraft - Gyroplane
AIM	Aeronautical Information Manual
POH	Pilot Operating Handbook
Other	Chart Supplements Gyroplane Flight Manual Rotorcraft Flight Manual

NOTE: Users should reference the current edition of the reference documents listed above. The current edition of all FAA publications can be found at: www.faa.gov.

The Objective lists the important elements that must be satisfactorily performed to demonstrate competency in a Task. The Objective includes:

1. specifically what the applicant must be able to do;
2. the conditions under which the Task is to be performed; and
3. the acceptable standards of performance.

Each Task has an Objective. The evaluator must determine that the applicant meets the Task Objective through the demonstration of competency in various elements of knowledge and/or skill. The Objectives of Tasks in certain Areas of Operation, such as Fundamentals of Instructing and Technical Subject Areas, include only knowledge elements. The Objectives of Tasks in the Areas of Operation that include elements of skill as well as knowledge also include common errors which the applicant shall be able to describe, recognize, analyze, and correct.

The Objective of a Task that involves pilot skill consists of four parts. Those four parts include determination that the applicant exhibits:

1. instructional knowledge of the elements of a Task. This is accomplished through descriptions, explanations, and simulated instruction.
2. instructional knowledge of common errors related to a Task, including their recognition, analysis, and correction.
3. the ability to demonstrate and simultaneously explain the key elements of a Task. The Task demonstration must be to the Commercial Pilot skill level; the teaching techniques and procedures should conform to those set forth in FAA-H-8083-9, Aviation Instructor's Handbook, FAA-H-8083-21, and Rotorcraft Flying Handbook.
4. the ability to analyze and correct common errors related to a Task.

Abbreviations/Acronyms

14 CFR	Title 14 of the Code of Federal Regulations
AD	Airworthiness Directive
ADM	Aeronautical Decision-Making
AELS	Aviation English Language Standard
AIM	Airman’s Information Manual
AIRMET	Airman’s Meteorological Information
AKTR	Airman Knowledge Test Report
ASI	Aviation Safety Inspector
ATC	Air Traffic Control
CFIT	Controlled Flight into Terrain
CRM	Crew Resource Management
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FSO	Flight Standards Office
GPS	Global Positioning System
LAHSO	Land and Hold Short Operations
MEL	Minimum Equipment List
PIREPS	Pilot Weather Reports
PTS	Practical Test Standard
RPM	Revolutions Per Minute
SIGMET	Significant Meteorological Information
SOP	Standard Operating Procedure
SRM	Single Pilot Resource Management
SUA	Special Use Airspace
TFR(s)	Temporary Flight Restriction(s)
VFR	Visual Flight Rules

Use of the PTS

The PTS has been designed to evaluate competency in teaching ability, knowledge, and skill.

The FAA requires that all practical tests be conducted in accordance with the appropriate PTS. Applicants must be evaluated in all Tasks included in the Areas of Operation of the appropriate practical test standard unless otherwise noted.

All of the procedures and maneuvers in the Private Pilot and Commercial Pilot Practical Test Standards have been included in the Flight Instructor Practical Test Standards. However, to permit completion of the practical test for initial certification within a reasonable timeframe, the evaluator shall select one or more Tasks in each Area of Operation. In certain Areas of Operation, there are required Tasks which the evaluator must select. These required Tasks are identified by a Note immediately following each Area of Operation title.

In preparation for the practical test, the evaluator must develop a written “plan of action.” The evaluator will vary each “plan of action” to ensure that all Tasks in the appropriate practical test standard are evaluated during a given number of practical tests. Except for required Tasks, the evaluator should avoid using the same optional Tasks in order to avoid becoming predictable. The “plan of action” for a practical test for initial certification shall include one or more Tasks in each Area of Operation and shall **always** include the required Tasks. The “plan of action” for a practical test for the addition of an aircraft category and/or class rating to a flight instructor certificate shall include the required Areas of Operation as indicated in the table at the beginning of each standard. The required Tasks appropriate to the additional rating(s) sought shall be included. Any Task selected for evaluation during the practical test shall be evaluated in its entirety.

The flight instructor applicant shall be prepared in all knowledge and skill areas and demonstrate the ability to instruct effectively in all Tasks included in the Areas of Operation of the appropriate practical test standard. Throughout the flight portion of the practical test, the evaluator shall evaluate the applicant's ability to demonstrate and simultaneously explain the selected procedures and maneuvers, and to give flight instruction to learners at various stages of flight training and levels of experience.

The term “instructional knowledge” means the “what,” "why," and “how” of a subject matter topic, procedure, or maneuver. It also means that the flight instructor applicant's discussions, explanations, and descriptions should follow the recommended teaching procedures and techniques explained in FAA-H-8083-9, Aviation Instructor's Handbook.

The purpose for including common errors in certain Tasks is to assist the evaluator in determining that the flight instructor applicant has the ability to recognize, analyze, and correct such errors. The evaluator shall not simulate any condition that may jeopardize safe flight or result in possible damage to the aircraft. The common errors listed in the Task Objectives may or may not be found in the Task References. However, the FAA considers their frequency of occurrence justification for their inclusion in the Task Objectives.

The evaluator shall place special emphasis on the applicant's demonstrated ability to teach precise aircraft control and sound judgment in decision making. Evaluation of the applicant's ability to teach judgment shall be accomplished by asking the applicant to describe the oral discussions and the presentation of practical problems that would be used in instructing learners in the exercise of sound judgment.

Special Emphasis Areas

Evaluators shall place special emphasis on the applicant’s ability to teach the following special emphasis areas that are considered critical to flight safety:

1. positive aircraft control;
2. positive exchange of the flight controls procedure (who is flying the aircraft);
3. airport operations/runway incursions;
4. collision avoidance;
5. wake turbulence avoidance;
6. LAHSO;
7. CFIT;
8. ADM and risk management;
9. wire strike avoidance;
10. checklist usage;
11. TFR;
12. SUA;
13. aviation security;
14. Runway incursion avoidance;
15. SRM and CRM;
16. spatial disorientation;
17. low level wind shear avoidance; and
18. other areas deemed appropriate to any phase of the practical test.

Although these areas may not be specifically addressed under each Task, they are essential to flight safety and will be evaluated during the practical test. In all instances, the applicant’s actions will relate to the complete situation.

Practical Test Prerequisites

14 CFR part 61, section 61.39 and subpart H provide practical test and certification prerequisites.

14 CFR part 61, section 61.197 provides renewal requirement for flight instructor certification.

14 CFR, part 61, section 61.199 provides reinstatement requirements of an expired flight instructor certificate.

Aircraft and Equipment Requirements

14 CFR part 61, section 61.45 provides requirements for aircraft and equipment for the practical test.

Evaluator Responsibility

The evaluator must determine that the applicant meets FAA AELS. An applicant for an FAA certificate or rating must be able to communicate in English in a discernible and understandable manner with ATC, pilots, and others involved in preparing an aircraft for flight and operating an aircraft in flight. This communication may or may not involve radio communications. An applicant for an FAA certificate issued in accordance with 14 CFR part 61 who cannot hear or speak due to a medical deficiency may be eligible for an FAA certificate with specific operational limitations. For additional information, reference AC 60-28, FAA English Language Standard for an FAA Certificate Issued Under 14 CFR parts 61, 63, 65, and 107, as amended.

If the applicant's ability to meet the FAA AELS comes into question before starting the practical test, the evaluator will not begin the practical test. An evaluator who is not an ASI[1] will check the box, *Referred to FSO for Aviation English Language Standard Determination,* located on the bottom of page 2 of the applicant's Airman Certificate and/or Rating Application, FAA form 8710-1. The evaluator will refer the applicant to the appropriate FSO.

If the applicant's ability to meet the FAA AELS comes into question after the practical test begins, an evaluator who is not an ASI will discontinue the practical test and check the box, *Referred to FSO for Aviation English Language Standard Determination*, on the application. The evaluator will also issue a Notice of Disapproval, FAA form 8060-5 with the comment "Does Not Demonstrate FAA AELS" in addition to any unsatisfactory Task(s).

In either case, the evaluator must complete and submit the application file through normal application procedures and notify the appropriate FSO of the referral.

The evaluator who conducts the practical test is responsible for determining that the applicant meets acceptable standards of teaching ability, knowledge, and skill in the selected Tasks. The evaluator makes this determination by accomplishing an Objective that is appropriate to each selected Task, and includes an evaluation of the applicant's:

1. ability to apply the fundamentals of instructing;
2. knowledge of and ability to teach the subject matter, procedures, and maneuvers covered in the Tasks;
3. ability to perform the procedures and maneuvers included in the standards to at least the Commercial Pilot skill level while giving effective flight instruction; and
4. ability to analyze and correct common errors related to the procedures and maneuvers covered in the Tasks.

It is intended that oral questioning be used at any time during the practical test to determine that the applicant can instruct effectively and has a comprehensive knowledge of the Tasks and their related safety factors.

During the flight portion of the practical test, the evaluator shall act as a learner during selected maneuvers. This will give the evaluator an opportunity to evaluate the flight instructor applicant's ability to analyze and correct simulated common errors related to these maneuvers.

[1] ASIs may assess an applicant's English language proficiency in accordance with FAA Order 8900.1.

Flight Instructor Responsibility

An appropriately rated flight instructor is responsible for training the flight instructor applicant to acceptable standards in all subject matter areas, procedures, and maneuvers included in the Tasks within each Area of Operation in the appropriate flight instructor practical test standard.

Because of the impact of their teaching activities in developing safe, proficient pilots, flight instructors should exhibit a high level of knowledge, skill, and the ability to impart that knowledge and skill to learners. The flight instructor shall certify that the applicant is:

1. able to make a practical application of the fundamentals of instructing;
2. competent to teach the subject matter, procedures, and maneuvers included in the standards to learners with varying backgrounds and levels of experience and ability;
3. able to perform the procedures and maneuvers included in the standards to at least the Commercial Pilot skill level[2] while giving effective flight instruction; and
4. competent to pass the required practical test for the issuance of the flight instructor certificate with the associated category and class ratings or the addition of a category and/or class rating to a flight instructor certificate.

Throughout the applicant's training, the flight instructor is responsible for emphasizing the performance of, and the ability to teach, effective visual scanning and collision avoidance procedures.

Satisfactory Performance

14 CFR part 61, section 61.43(a), describes the satisfactory completion of the practical test for a certificate or rating.

The practical test is passed if, in the judgment of the evaluator, the applicant demonstrates satisfactory performance with regard to:

1. knowledge of the fundamentals of instructing;
2. knowledge of the technical subject areas;
3. knowledge of the flight instructor's responsibilities concerning the pilot certification process;
4. knowledge of the flight instructor's responsibilities concerning logbook entries and pilot certificate endorsements;
5. ability to demonstrate the procedures and maneuvers selected by the evaluator to at least the Commercial Pilot skill level while giving effective instruction;
6. competence in teaching the procedures and maneuvers selected by the evaluator;
7. competence in describing, recognizing, analyzing, and correcting common errors simulated by the evaluator; and
8. knowledge of the development and effective use of a course of training, a syllabus, and a lesson plan.

[2] Commercial Pilot skill level is defined as performing a procedure or maneuver within the tolerances listed in the FAA Commercial Pilot Practical Test Standards. If the maneuver appears only in the Private Pilot Practical Test Standards, the term means that the applicant’s performance is expected to be more precise than indicated by the stated tolerances.

Unsatisfactory Performance

If, in the judgment of the evaluator, the applicant does not meet the standards of performance of any Task performed, the associated Area of Operation is considered unsatisfactory and, therefore, the practical test is failed. 14 CFR part 61, section 61.43(c) – (f) provides additional unsatisfactory performance requirements and parameters. The evaluator or applicant may discontinue the test at any time when the failure of an Area of Operation makes the applicant ineligible for the certificate or rating sought. The test may be continued only with the consent of the applicant. If the test is discontinued, the applicant is entitled to credit for only those Areas of Operation satisfactorily performed. However, during the retest and at the discretion of the evaluator, any Task may be re-evaluated including those previously considered satisfactory. Typical reasons for disqualification are:

1. failure to perform a procedure or maneuver to the Commercial Pilot skill level while giving effective flight instruction;
2. failure to provide an effective instructional explanation while demonstrating a procedure or maneuver (explanation during the demonstration must be clear, concise, technically accurate, and complete with no prompting from the evaluator);
3. any action or lack of action by the applicant which requires corrective intervention by the evaluator to maintain safe flight; and
4. failure to use proper and effective visual scanning techniques to clear the area before and while performing maneuvers.

When a notice of disapproval is issued, the evaluator will record the applicant's unsatisfactory performance in terms of Areas of Operation and Tasks.

Letter of Discontinuance

When a practical test is discontinued for reasons other than unsatisfactory performance (e.g., equipment failure, weather, or illness) FAA Form 8710-1, Airman Certificate and/or Rating Application, and, if applicable, the AKTR, is to be returned to the applicant. The evaluator at that time prepares, signs, and issues a Letter of Discontinuance to the applicant. The Letter of Discontinuance should identify the Areas of Operation and their associated Tasks of the practical test that were successfully completed. The applicant should be advised that the Letter of Discontinuance must be presented to the evaluator when the practical test is resumed, and made part of the certification file.

ADM, Risk Management, CRM, and SRM

Throughout the practical test, the evaluator must assess the applicant's ability to use sound aeronautical decision-making procedures in order to identify hazards and mitigate risk. The evaluator must accomplish this requirement by developing scenarios that incorporate and combine Tasks appropriate to assessing the applicant's risk management in making safe aeronautical decisions. For example, the evaluator may develop a scenario that incorporates weather decisions and performance planning.

In assessing the applicant's performance, the evaluator must take note of the applicant's use of CRM and, if appropriate, SRM. CRM/SRM is the set of competencies that includes situational awareness, communication skills, teamwork, task allocation and decision making within a comprehensive framework of SOP. SRM specifically refers to the management of all resources onboard the aircraft as well as outside resources available to the single pilot.

If an applicant fails to use ADM, including CRM/SRM, as applicable in any Task, the evaluator will note that Task as failed.

Applicant's Use of Checklists

Throughout the practical test, the applicant is evaluated on the use of an appropriate checklist. Proper use is dependent on the specific Task being evaluated. The situation may be such that the use of the checklist while accomplishing the elements of the Objective would be either unsafe or impractical, especially in a single-pilot operation. In this case, a review of the checklist after the elements have been accomplished, would be appropriate. Division of attention and proper visual scanning would be considered when using a checklist.

Use of Distractions During Practical Tests

Numerous studies indicate that many accidents have occurred when the pilot has been distracted during critical phases of flight. To evaluate the pilot's ability to utilize proper control technique while dividing attention both inside and/or outside the cockpit, the evaluator should cause a realistic distraction during the flight portion of the practical test to evaluate the applicant's ability to divide attention while maintaining safe flight.

Positive Exchange of Flight Controls

During flight training, there must always be a clear understanding between learners and flight instructors of who has control of the aircraft. Prior to flight, a briefing should be conducted that includes the procedure for the exchange of flight controls. A positive three-step process, subsequently described, in the exchange of flight controls between pilots is a proven procedure and one that is strongly recommended.

When the instructor wishes the learner to take control of the aircraft, he/she will say “You have the flight controls.” The learner acknowledges immediately by saying, “I have the flight controls.” The flight instructor again says “You have the flight controls.” When control is returned to the instructor, follow the same procedure. A visual check is recommended to verify that the exchange has occurred. There should never be any doubt as to who is flying the aircraft.

Use of Full Flight Simulators and Flight Simulation Training Devices

All flight instructor practical tests shall be conducted in accordance with 14 CFR part 61, section 61.45 and in an actual aircraft. Use of an approved FFS or FSTD is not authorized for any in-flight Task of a flight instructor practical test unless approved in the practical test standards or under conditions and limitations of a regulatory exemption. However, such devices may be used to assist in evaluating the instructional ability of an applicant during any Task not involving a flight maneuver.

Additional Rating Task Table

Addition of a Gyroplane Class Rating to a Flight Instructor Certificate

(Rotorcraft Category Rating, if appropriate)

Flight Instructor Certificate and Rating Held

Required Areas of Operation	ASE	AME	RH	G	IAH
I	N	N	N	N	N
II	Y	Y	Y	Y	Y
III	Y	Y	Y	Y	Y
IV	N	N	N	N	N
V	Y	Y	Y	Y	Y
VI	N	N	N	N	N
VII	Y	Y	Y	Y	Y
VIII	Y	Y	Y	Y	Y
IX	Y	Y	Y	Y	Y
X	Y	Y	Y	Y	Y
XI	Y	Y	Y	Y	Y
XII	Y	Y	Y	Y	Y
XIII	Y	Y	Y	Y	Y

Legend:

ASE Airplane Single-Engine
AME Airplane Multiengine
RH Rotorcraft Helicopter
G Glider Powered
IAH Instrument Airplane/Helicopter

Note: If an applicant holds more than one rating on a flight instructor certificate and the table indicates both a Y (Yes) and an N (No) for a particular Area of Operation, the N entry applies. This is logical since the applicant has satisfactorily accomplished the Area of Operation on a previous flight instructor practical test. At the discretion of the evaluator, the applicant's competence in all Areas of Operation may be evaluated.

Renewal or Reinstatement of a Flight Instructor Certificate

Required Areas of Operation	Number of Tasks
II	Task L and 1 other Task
III	1
IV	1
V	1
VI	1
VII	1
VIII	2 Takeoffs and 2 Landings
IX	1

The renewal or reinstatement of one rating on a Flight Instructor Certificate renews or reinstates all privileges existing on the certificate. (14 CFR part 61, sections 61.197 and 61.199)

Applicant's Practical Test Checklist
Gyroplane
Appointment with Evaluator

Evaluator's Name: _____

Location: _____

Date/Time: _____

Acceptable Aircraft

- ☐ Aircraft Documents:
  - ☐ Airworthiness Certificate
  - ☐ Registration Certificate
  - ☐ Operating Limitations
- ☐ Aircraft Maintenance Records:
  - ☐ Logbook Record of Airworthiness Inspections and AD Compliance
- ☐ Pilot's Operating Handbook
- ☐ Gyroplane Flight Manual
- ☐ FCC Station License

Personal Equipment

- ☐ PTS
- ☐ Lesson Plan Library
- ☐ Current Aeronautical Charts
- ☐ Computer and Plotter
- ☐ Flight Plan and Flight Log Forms
- ☐ Current AIM, Chart Supplements, and Appropriate Publications

Personal Records

- ☐ Identification – Photo/Signature ID
- ☐ Pilot Certificate
- ☐ Current and Appropriate Medical Certificate
- ☐ Completed FAA Form 8710-1, Airman Certificate and/or Rating Application
- ☐ AKTR (if applicable)
- ☐ Pilot Logbook with Appropriate Instructor Endorsements
- ☐ FAA Form 8060-5, Notice of Disapproval of Application (if applicable)
- ☐ Approved School Graduation Certificate (if applicable)
- ☐ Evaluator's Fee (if applicable)
- ☐ Letter of Discontinuance (if applicable)

Evaluator's Practical Test Checklist

Flight Instructor Gyroplane

Applicant's Name: _____

Location: _____

Date/Time: _____

I. Fundamentals of Instructing

- ☐ **A.** The Learning Process
- ☐ **B.** Human Behavior
- ☐ **C.** The Teaching Process
- ☐ **D.** Teaching Methods
- ☐ **E.** Critique and Evaluation
- ☐ **F.** Flight Instructor Characteristics and Responsibilities
- ☐ **G.** Planning Instructional Activity

II. Technical Subjects

- ☐ **A.** Aeromedical Factors
- ☐ **B.** Visual Scanning and Collision Avoidance
- ☐ **C.** Use of Distractions during Flight Training
- ☐ **D.** Principles of Flight
- ☐ **E.** Gyroplane Flight Controls
- ☐ **F.** Gyroplane Weight and Balance
- ☐ **G.** Navigation and Flight Planning
- ☐ **H.** Night Operations
- ☐ **I.** Regulations and Publications
- ☐ **J.** Airworthiness Requirements
- ☐ **K.** National Airspace System
- ☐ **L.** Logbook Entries and Certificate Endorsements

III. Preflight Preparation

- ☐ **A.** Certificates and Documents
- ☐ **B.** Weather Information
- ☐ **C.** Operation of Systems
- ☐ **D.** Performance and Limitations

IV. Preflight Lesson on a Maneuver to be Performed in Flight

- ☐ **A.** Maneuver Lesson

V. Preflight Procedures

- ☐ **A.** Preflight Inspection
- ☐ **B.** Single-Pilot Resource Management
- ☐ **C.** Engine Starting
- ☐ **D.** Taxiing
- ☐ **E.** Before Takeoff Check

VI. Airport Operations

- ☐ **A.** Radio Communications and ATC Light Signals
- ☐ **B.** Traffic Patterns
- ☐ **C.** Airport Markings, Signs, and Lighting

VII. Takeoffs, Landings, and Go-Arounds

- ☐ **A.** Normal and Crosswind Takeoff and Climb
- ☐ **B.** Soft-Field Takeoff and Climb
- ☐ **C.** Normal and Crosswind Approach and Landing
- ☐ **D.** Soft-Field Approach and Landing
- ☐ **E.** Go-Around

VIII. Fundamentals of Flight

- ☐ **A.** Straight-and-Level Flight
- ☐ **B.** Level Turns
- ☐ **C.** Straight Climbs and Climbing Turns
- ☐ **D.** Straight Descents and Descending Turns

IX. Performance Maneuvers

- ☐ **A.** Steep Turns

X. Flight at Slow Airspeed

- ☐ **A.** Maneuvering at Slow Airspeeds
- ☐ **B.** High Rates of Descent and Recovery

XI. Ground Reference Maneuvers

- ☐ **A.** Rectangular Course
- ☐ **B.** S-Turns Across a Road
- ☐ **C.** Turns Around a Point

XII. Emergency Operations

- ☐ **A.** Lift-off at Low Airspeed and High Angle of Attack
- ☐ **B.** Emergency Approach and Landing (Simulated)
- ☐ **C.** Systems and Equipment Malfunctions
- ☐ **D.** Ground Resonance
- ☐ **E.** Emergency Equipment and Survival Gear

XIII. Postflight Procedures

- ☐ **A.** After-Landing and Securing

I. AREA OF OPERATION: FUNDAMENTALS OF INSTRUCTING

Note: *The evaluator shall select at least Tasks E and F.*

Task A: The Learning Process

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of the learning process by describing:

1. The definition and characteristics of learning.
2. Practical application of the laws of learning.
3. Factors involved in how people learn.
4. Recognition and proper use of the various levels of learning.
5. Principles that are applied in learning a skill.
6. Factors related to forgetting and retention.
7. How the transfer of learning affects the learning process.
8. How the formation of habit patterns affects the learning process.

Task B: Human Behavior

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to human behavior by describing:

1. Control of human behavior.
2. Development of learner potential.
3. Relationship of human needs to behavior and learning.
4. Relationship of defense mechanisms to learning and pilot decision-making.
5. General rules which a flight instructor should follow during learner training to ensure good human relations.

Task C: The Teaching Process

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of the teaching process by describing:

1. Preparation of a lesson for a ground or flight instructional period.
2. Presentation of knowledge and skills, including the methods, which are suitable in particular situations.
3. Application, by the learner, of the knowledge and skills presented by the instructor.
4. Review of the material presented and the evaluation of learner performance and accomplishment.

Task D: Teaching Methods

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of teaching methods by describing:

1. The organization of a lesson (i.e., introduction, development, and conclusion).
2. The lecture method.
3. The guided discussion method.
4. The demonstration-performance method.
5. Computer/video assisted instruction.

Task E: Critique and Evaluation

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of critique and evaluation by describing:

1. Purpose and characteristics of an effective critique.
2. Difference between critique and evaluation.
3. Characteristics of effective oral questions and what type to avoid.
4. Responses to learner questions.
5. Characteristics and development of effective written tests.
6. Characteristics and uses of performance tests, specifically, the FAA PTS.

Task F: Flight Instructor Characteristics and Responsibilities

*R*eference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of flight instructor characteristics and responsibilities by describing:

1. Major characteristics and qualifications of a professional flight instructor.
2. Role of the flight instructor in dealing with learner stress, anxiety, and psychological abnormalities.
3. Flight instructor's responsibility with regard to student pilot supervision and surveillance.
4. Flight instructor's authority and responsibility for endorsements and recommendations.
5. Flight instructor's responsibility in the conduct of the required FAA flight review.

Task G: Planning Instructional Activity

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to the planning of instructional activity by describing:

1. Development of a course of training.
2. Content and use of a training syllabus.
3. Purpose, characteristics, proper use, and items of a lesson plan.
4. Flexibility features of a course of training, syllabus, and lesson plan required to accommodate learners with varying backgrounds, levels of experience, and ability.

II. AREA OF OPERATION: TECHNICAL SUBJECTS

Note: *The evaluator shall select Task L and at least one other Task.*

Task A: Aeromedical Factors

References: FAA-H-8083-25; AIM.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to aeromedical factors by describing:

1. Hypoxia, its symptoms, effects, and corrective action.
2. Hyperventilation, its symptoms, effects, and corrective action.
3. Middle ear and sinus problems, their causes, effects, and corrective action.
4. Spatial disorientation, its causes, effects, and corrective action.
5. Motion sickness, its causes, effects, and corrective action.
6. Effects of alcohol and drugs, and their relationship to safety.
7. Carbon monoxide poisoning, its symptoms, effects, and corrective action.
8. How evolved gas from scuba diving can affect a pilot during flight.
9. Fatigue, its effects and corrective action.

Task B: Visual Scanning and Collision Avoidance

References: FAA-H-8083-9; AIM.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of visual scanning and collision avoidance by describing:

1. Relationship between a pilot's physical or mental condition and vision.
2. Environmental conditions and optical illusions that affect vision.
3. “See and avoid” concept.
4. Practice of “time sharing” of attention inside and outside the flight deck.
5. Proper visual scanning technique.
6. Relationship between poor visual scanning habits, aircraft speed differential, and increased collision risk.
7. Appropriate clearing procedures.
8. Situations which involve the greatest collision risk.

Task C: Use of Distractions During Flight Training

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of the use of distractions during flight training by describing:

1. Flight situations where pilot distraction can be a causal factor related to aircraft accidents.
2. Selection of realistic distractions for specific flight situations.
3. Relationship between division of attention and flight instructor use of distractions.
4. Difference between proper use of distractions and harassment.

Task D: Principles of Flight

Reference: FAA-H-8083-9.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of principles of flight by describing:

1. Rotor system characteristics.
2. Effect of lift, weight, thrust, and drag during various flight maneuvers.
3. Stability and controllability, to include pilot induced oscillation and power pushover.
4. Autorotation and inverted airflow.
5. Dissymmetry of lift.
6. Retreating blade stall.
7. Blade flapping and coning.
8. Coriolis Effect.
9. Negative roll with yaw.
10. Lateral stick force/position change with airspeed.

Task E: Gyroplane Flight Controls

References: FAA-H-8083-21, Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the flight controls of the gyroplane used for the practical test by describing:

1. Cyclic control.
2. Rudder control.
3. Prerotator/rotor spin-up control.
4. Collective pitch control (if applicable).
5. Throttle control.

Task F: Gyroplane Weight and Balance

References: FAA-H-8083-1, FAA-H-8083-21; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of gyroplane weight and balance by describing:

1. Weight and balance terms.
2. Effect of weight and balance on performance.
3. Determination of total weight, center of gravity, and the changes that occur when adding, removing, or shifting weight.

Task G: Navigation and Flight Planning

Reference: FAA-H-8083-25.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of navigation and flight planning by describing:

1. Terms used in navigation.
2. Features of aeronautical charts.
3. Importance of using the proper and current aeronautical charts.
4. Identification of various types of airspace.
5. Method of plotting a course, selection of fuel stops and alternates, and appropriate actions in the event of unforeseen situations.
6. Fundamentals of pilotage and dead reckoning.
7. Fundamentals of radio navigation.
8. Diversion to an alternate.
9. Lost procedures.
10. Computation of fuel requirement.
11. Importance of preparing and properly using a flight log.
12. Importance of a weather check and the use of good judgment in making a “go/no-go” decision.
13. Purpose of, and procedure used in, filing a flight plan.
14. GPS.

Task H: Night Operations

References: FAA-H-8083-21, FAA-H-8083-25; AIM; FAA-S-8081-15.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to night operations by describing:

1. Factors related to night vision, disorientation, and optical illusions.
2. Weather considerations specific to night operations.
3. Preflight inspection, including windshield and window cleanliness.
4. Proper adjustment of interior lights, including availability of flashlight.
5. Engine starting procedures, including proper use of exterior lighting prior to start.
6. Taxiing and orientation on an airport.
7. Takeoff and climb-out.
8. Inflight orientation.
9. Importance of verifying the gyroplane's attitude by visual references and flight instruments.
10. Recovery from critical flight attitudes by visual references and flight instruments.
11. Emergencies such as electrical failure, engine malfunction, and emergency landings.
12. Traffic patterns.
13. Approaches and landings with and without landing lights.

Task I: Regulations and Publications

References: 14 CFR parts 1, 61, 91; 49 CFR part 830; AIM, Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to regulations and publications, their purpose, general content, availability, and method of revision, by describing:

1. 14 CFR parts 1, 61, and 91.
2. 49 CFR part 830.
3. Flight information publications.
4. PTS.
5. FAA-Approved Flight Manual.

Task J: Airworthiness Requirements

References: 14 CFR parts 1, 21, 27, 39, 43, and 91; FAA-H-8083-21.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to airworthiness requirements by:

1. Explaining—
    a. required instruments and equipment for day/night VFR.
    b. procedures and limitations for determining airworthiness of the gyroplane with inoperative instruments and equipment with and without an MEL.
    c. requirements and procedures for obtaining a special flight permit.
2. Locating and explaining—
    a. airworthiness directives.
    b. compliance records.
    c. maintenance/inspection requirements.
    d. appropriate record keeping.

Task K: National Airspace System

References: 14 CFR part 91; FAA-S-8081-15, FAA-S-8081-16; AIM.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of the national airspace system by describing:

1. Basic VFR Weather Minimums—for all classes of airspace.
2. Airspace classes—the operating rules, pilot certification, and aircraft equipment requirements for the following—
    a. Class A.
    b. Class B.
    c. Class C.
    d. Class D.
    e. Class E.
    f. Class G.
3. Special use airspace and other airspace areas.
4. TFRs.

Task L: Logbook Entries and Certificate Endorsements

References: 14 CFR part 61; AC 61-65, AC 61-98.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to logbook entries and certificate endorsements by describing:

1. Required logbook entries for instruction given.
2. Required student pilot certificate endorsements, including appropriate logbook entries.
3. Preparation of a recommendation for a pilot practical test, including appropriate logbook entry.
4. Required endorsement of a pilot logbook for satisfactory completion of an FAA flight review.
5. Required flight instructor records.

III. AREA OF OPERATION: PREFLIGHT PREPARATION

Note: *The evaluator shall select at least one Task.*

Task A: Certificates and Documents

References: 14 CFR parts 43, 61, 67; FAA-H-8083-21, FAA-H-8083-25; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to certificates and documents by describing:

1. Requirements for the issuance of pilot and flight instructor certificates and ratings, and the privileges and limitations of those certificates and ratings.
2. Medical certificates, class, duration, and how to obtain them.
3. Airworthiness and registration certificates.
4. Gyroplane flight manuals.
5. Gyroplane maintenance requirements and records.

Task B: Weather Information

References: FAA-H-8083-21, FAA-H-8083-28; AIM.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to weather information by describing:

1. Importance of a thorough weather check.
2. Various methods of obtaining weather information.
3. Use of weather reports, forecasts, and charts.
4. Use of PIREPs, SIGMETs, and AIRMETs.
5. Recognition of aviation weather hazards to include wind shear.
6. Factors to be considered in making a “go/no-go” decision.

Task C: Operation of Systems

References: FAA-H-8083-21; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to the operation of systems, as applicable to the gyroplane used for the practical test, by describing:

1. Powerplant, including controls, indicators, and cooling.
2. Rotor and pre-rotator/rotor spin-up.
3. Landing gear, brakes, and steering.
4. Fuel, oil, and hydraulic.
5. Electrical.
6. Pitot static/vacuum and associated instruments.
7. Environmental.
8. Anti-icing.
9. Avionics.

Task D: Performance and Limitations

References: FAA-H-8083-1, FAA-H-8083-21, FAA-H-8083-25; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to performance and limitations by describing:

1. Determination of weight and balance condition.
2. Use of performance charts, including height/velocity diagram, and other data for determining performance in various phases of flight.
3. Engine thrust vs. center of gravity.
4. Effects of density altitude, wind shear, and other atmospheric conditions on performance.
5. Other factors to be considered in determining that required performance is within the gyroplane's capabilities.

IV. AREA OF OPERATION: PREFLIGHT LESSON ON A MANEUVER TO BE PERFORMED IN FLIGHT

Note: *The evaluator shall select at least one maneuver from Areas of Operation VI through XII and will ask the applicant to present a preflight lesson on the selected maneuver, as the lesson would be taught to a learner. Previously developed lesson plans from the applicant's library may be used.*

Task A: Maneuver Lesson

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the selected maneuver by:

1. Using a lesson plan that includes all essential items to make an effective and organized presentation.
2. Stating the objective.
3. Giving an accurate, comprehensive oral description of the maneuver, including the elements and associated common errors.
4. Using instructional aids, as appropriate.
5. Describing the recognition, analysis, and correction of common errors.

V. AREA OF OPERATION: PREFLIGHT PROCEDURES

Note: *The evaluator shall select at least one Task.*

Task A: Preflight Inspection

References: FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a preflight inspection, as applicable to the gyroplane used for the practical test, by describing—
   a. reasons for the preflight inspection, items that should be inspected, and how defects are detected.
   b. importance of using the appropriate checklist.
   c. determination of fuel, oil, and hydraulic fluid quantity, possible contamination and/or leaks.
   d. inspection of flight controls.
   e. detection of visible structural damage.
   f. removal of control locks, rotor blade tie-down, and wheel chocks, if applicable.
   g. importance of proper loading and securing of baggage, cargo, and equipment.
   h. use of sound judgment in determining whether the gyroplane is in condition for safe flight.
2. Exhibits instructional knowledge of common errors related to a preflight inspection by describing—
   a. failure to use or improper use of checklist.
   b. hazards which may result from allowing distractions to interrupt a preflight inspection.
   c. inability to recognize discrepancies.
   d. failure to ensure servicing with proper fuel and oil.
3. Demonstrates and simultaneously explains a preflight inspection from an instructional standpoint.

Task B: Single-Pilot Resource Management

References: 14 CFR part 91; FAA-H-8083-9; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of crew resource management by describing—
   a. proper arranging and securing of essential materials and equipment in the flight deck.
   b. proper use and/or adjustment of such flight deck items as safety belts, shoulder harnesses, rudder pedals, and seats.
   c. occupant briefing on emergency procedures, rotor blade avoidance, and use of safety belts, and shoulder harnesses.
   d. utilization of all available human resources, maintenance personnel, weather briefers, and air traffic control, and other groups routinely working with the pilot who are involved in decisions that are required to operate a flight safely.
2. Exhibits instructional knowledge of common errors related to crew resource management by describing—
   a. failure to place and secure essential materials and equipment for easy access during flight.
   b. improper adjustment of equipment and controls.
   c. failure to brief occupants on emergency procedures, rotor blade avoidance, and use of safety belts, and shoulder harnesses.
   d. failure to utilize all available human resources, maintenance personnel, weather briefers, air traffic control, and other groups routinely working with the pilot who are involved in decisions that are required to operate a flight safely.
3. Demonstrates and simultaneously explains crew resource management from an instructional standpoint.

Task C: Engine Starting

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of engine starting as appropriate to the gyroplane used for the practical test by describing—
   a. safety precautions related to engine starting.
   b. use of external power.
   c. effect of various atmospheric conditions on starting.
   d. importance of following the appropriate checklist.
   e. proper position of engine and flight controls during engine start.
   f. prevention of gyroplane movement after engine start.
2. Exhibits instructional knowledge of common errors related to engine starting by describing—
   a. failure to use or improper use of checklist.
   b. failure to monitor engine instruments.
   c. improper position of flight controls during and after start.
3. Demonstrates and simultaneously explains engine starting from an instructional standpoint.

Task D: Taxiing

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of taxiing by describing—
   a. proper check and correct use of brakes.
   b. compliance with airport surface markings, signals, and clearances.
   c. how to control direction and speed.
   d. proper rotor blade management while taxiing, based on terrain and wind conditions.
   e. techniques to avoid other aircraft and hazards.
2. Exhibits instructional knowledge of common errors related to taxiing by describing—
   a. improper use of brakes.
   b. hazards of taxiing too fast.
   c. failure to use proper rotor blade management while taxiing.
   d. failure to comply with markings, signals, or clearances.
   e. improper positioning for run-up.
3. Demonstrates and simultaneously explains taxiing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to taxiing.

Task E: Before Takeoff Check

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a before takeoff check by describing—
   a. division of attention inside and outside the flight deck.
   b. importance of following the checklist and responding to each item.
   c. reasons for ensuring suitable engine temperatures and pressures for run-up and takeoff.
   d. method used to determine that gyroplane is in a safe operating condition.
   e. importance of reviewing emergency procedures, to include low speed/high speed blade flap situations.
   f. method used for ensuring that takeoff area or path is free of hazards or obstacles.
   g. method used for ensuring adequate clearance from other traffic.
   h. rotor spin-up procedure.
2. Exhibits instructional knowledge of common errors related to a before takeoff check by describing—
   a. failure to use or the improper use of the checklist.
   b. acceptance of marginal gyroplane performance.
   c. an improper check of controls.
   d. failure to check for hazards and other traffic.
3. Demonstrates and simultaneously explains a before takeoff check from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a before takeoff check.

VI. AREA OF OPERATION: AIRPORT OPERATIONS

Note: *The evaluator shall select at least one Task.*

Task A: Radio Communications and ATC Light Signals

References: 14 CFR part 91; FAA-S-8081-15, FAA-S-8081-16; AIM.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of radio communications and ATC light signals by describing—
   a. selection and use of appropriate radio frequencies.
   b. recommended procedure and phraseology for radio voice communications.
   c. receipt, acknowledgment of, and compliance with, ATC clearances and other instructions.
   d. prescribed procedure for radio communications failure.
   e. interpretation of, and compliance with, ATC light signals.
2. Exhibits instructional knowledge of common errors related to radio communications and ATC light signals by describing—
   a. use of improper frequencies.
   b. improper techniques and phraseologies when using radio voice communications.
   c. failure to acknowledge, or properly comply with, ATC clearances and other instructions.
   d. use of improper procedures for radio communications failure.
   e. failure to understand, or to properly comply with, ATC light signals.

Task B: Traffic Patterns

References: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; AIM.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of traffic patterns by describing—
   a. operations at controlled and uncontrolled airports.
   b. adherence to traffic pattern procedures, instructions, and appropriate regulations.
   c. how to maintain proper spacing from other traffic.
   d. how to maintain proper ground track.
   e. wind shear and wake turbulence.
   f. orientation with runway or landing area.
   g. how to establish a final approach at an appropriate distance from the approach end of the runway or landing area.
   h. use of checklist.
2. Exhibits instructional knowledge of common errors related to traffic patterns by describing—
   a. failure to comply with traffic pattern instructions, procedures, and rules.
   b. improper correction for wind drift.
   c. inadequate spacing from other traffic.
   d. improper altitude or airspeed control.
3. Demonstrates and simultaneously explains traffic patterns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to traffic patterns.

Task C: Airport Markings, Signs, and Lighting

References: FAA-H-8083-25; FAA-S-8081-15, FAA-S-8081-16; AIM.

Objective: To determine that the applicant exhibits instructional knowledge of the elements of airport signs, markings, and lighting by describing:

1. Identification and proper interpretation of airport signs, runway, and taxiway markings.
2. Identification and proper interpretation of airport signs, runway, and taxiway lighting.

VII. AREA OF OPERATION: TAKEOFFS, LANDINGS, AND GO-AROUNDS

Note: *The evaluator shall select at least one takeoff Task and one landing Task.*

Task A: Normal and Crosswind Takeoff and Climb

References: FAA-H-8083-9; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and crosswind takeoff and climb by describing—
   a. consideration of wind conditions.
   b. factors affecting takeoff and climb performance.
   c. alignment with takeoff path.
   d. initial positioning of flight controls.
   e. prerotation of rotor blades to required RPM.
   f. application of power for takeoff.
   g. directional control and crosswind technique.
   h. lift-off attitude, airspeed, and rotor RPM.
   i. climb attitude, power setting, and airspeed.
   j. crosswind correction and track during climb.
2. Exhibits instructional knowledge of common errors related to a normal and crosswind takeoff and climb by describing—
   a. failure to check rotor for proper operation, track, and RPM prior to initiating takeoff.
   b. improper initial positioning of flight controls.
   c. improper power application.
   d. inappropriate removal of hand from throttle.
   e. poor directional control.
   f. failure to lift off at proper airspeed.
   g. failure to establish and maintain proper climb attitude and airspeed.
   h. drift during climb.
3. Demonstrates and simultaneously explains a normal and crosswind takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a normal and crosswind takeoff and climb.

Task B: Soft-field Takeoff and Climb

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a soft-field takeoff and climb by describing—
   a. consideration of wind conditions and takeoff surface.
   b. factors affecting takeoff and climb performance.
   c. how to align the gyroplane with the takeoff path without stopping.
   d. initial positioning of flight controls.
   e. prerotation of rotor blades (if applicable).
   f. directional control during acceleration on the surface.
   g. lift-off attitude, airspeed, and rotor RPM.
   h. acceleration in ground effect to climb airspeed.
   i. obstacle clearance (if applicable).
   j. climb attitude, power setting, and airspeed.
   k. track during climb.
2. Exhibits instructional knowledge of common errors related to a soft-field takeoff and climb by describing—
   a. failure to check rotor for proper operation, track, and RPM prior to initiating takeoff.
   b. improper initial positioning of flight controls.
   c. hazards of allowing the gyroplane to stop on the takeoff surface prior to initiating takeoff.
   d. improper power application.
   e. inappropriate removal of hand from throttle.
   f. poor directional control.
   g. improper pitch attitude during lift-off.
   h. hazards of settling back to takeoff surface after becoming airborne.
   i. failure to establish and maintain proper climb attitude and airspeed.
   j. drift during climb.
3. Demonstrates and simultaneously explains a soft-field takeoff and climb from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a soft-field takeoff and climb.

Task C: Normal and Crosswind Approach and Landing

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a normal and crosswind approach and landing by describing—
    a. how to determine landing performance and limitations.
    b. power and trim.
    c. obstructions and other hazards, which should be considered.
    d. a stabilized approach at the recommended airspeed to the selected touchdown area.
    e. use of a controlled high-sink to adjust desired approach angle.
    f. coordination of flight controls.
    g. a precise ground track.
    h. possibility of wind shear and wake turbulence.
    i. most suitable crosswind technique.
    j. timing, judgment, and control touch during flare and touchdown.
    k. directional control after touchdown.
    l. use of brakes.
2. Exhibits instructional knowledge of common errors related to a normal and crosswind approach and landing by describing—
    a. improper use of landing performance data and limitations.
    b. failure to establish and maintain a stabilized approach.
    c. inappropriate removal of hand from throttle.
    d. improper technique during flare and touchdown.
    e. touchdown at too low an airspeed with strong headwinds, causing rearward roll.
    f. poor directional control after touchdown.
    g. improper use of brakes.
3. Demonstrates and simultaneously explains a normal or a crosswind approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a normal and crosswind approach and landing.

Task D: Soft-Field Approach and Landing

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a soft-field approach and landing by describing—
    a. how to determine landing performance and limitations.
    b. power and trim.
    c. obstacles and other hazards, which should be considered.
    d. effect of wind and landing surface.
    e. selection of a touchdown area.
    f. a stabilized approach at the recommended airspeed to the selected touchdown area.
    g. use of a controlled high-sink to adjust desired approach angle.
    h. coordination of flight controls.
    i. a precise ground track.
    j. timing, judgment, and control touch during flare and touchdown.
    k. directional control after touchdown.
2. Exhibits instructional knowledge of common errors related to a soft-field approach and landing by describing—
    a. improper use of landing performance data and limitations.
    b. failure to establish and maintain a stabilized approach.
    c. failure to consider the effect of wind and landing surface.
    d. faulty technique in use of power.
    e. inappropriate removal of hand from throttle.
    f. faulty technique during flare and touchdown.
    g. touchdown at too low an airspeed with strong headwinds, causing rearward roll.
    h. poor directional control after touchdown.
    i. improper use of brakes.
3. Demonstrates and simultaneously explains a soft-field approach and landing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a soft-field approach and landing.

Task E: Go-Around

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a go-around by describing—
   a. situations where a go-around is necessary.
   b. importance of making a prompt decision.
   c. importance of applying takeoff power immediately after the go-around decision is made.
   d. importance of establishing proper pitch attitude.
   e. use of trim.
   f. proper climb speed.
   g. proper track and obstacle clearance.
2. Exhibits instructional knowledge of common errors related to a go-around by describing—
   a. failure to recognize a situation where a go-around is necessary.
   b. hazards of delaying a decision to go around.
   c. improper power application.
   d. failure to control pitch attitude.
   e. improper trim technique.
   f. failure to maintain recommended airspeeds.
   g. failure to maintain proper track during climb-out.
   h. failure to remain well clear of obstacles and other traffic.
3. Demonstrates and simultaneously explains a go-around from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a go-around.

VIII. AREA OF OPERATION: FUNDAMENTALS OF FLIGHT

Note: *The evaluator shall select at least one Task.*

Task A: Straight-and-Level Flight

References: FAA-H-8083-9, FAA-H-8083-21.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight-and-level flight by describing—
   a. effect and use of flight controls.
   b. the Integrated Flight Instruction method.
   c. trim technique.
   d. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight-and-level flight by describing—
   a. improper coordination of flight controls.
   b. failure to cross-check and correctly interpret outside and instrument references.
   c. faulty trim technique.
3. Demonstrates and simultaneously explains straight-and-level flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and-level flight.

Task B: Level Turns

References: FAA-H-8083-9, FAA-H-8083-21.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of level turns by describing—
   a. effect and use of flight controls.
   b. the Integrated Flight Instruction method.
   c. trim technique.
   d. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to level turns by describing—
   a. improper coordination of flight controls.
   b. failure to cross-check and correctly interpret outside and instrument references.
   c. faulty trim technique.
3. Demonstrates and simultaneously explains level turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to level turns.

Task C: Straight Climbs and Climbing Turns

References: FAA-H-8083-9, FAA-H-8083-21.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight climbs and climbing turns by describing—
   a. effect and use of flight controls.
   b. the Integrated Flight Instruction method.
   c. trim technique.
   d. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight climbs and climbing turns by describing—
   a. improper coordination of flight controls.
   b. failure to cross-check and correctly interpret outside and instrument references.
   c. faulty trim technique.
3. Demonstrates and simultaneously explains straight climbs and climbing turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight climbs and climbing turns.

Task D: Straight Descents and Descending Turns

References: FAA-H-8083-9, FAA-H-8083-21.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of straight descents and descending turns by describing—
   a. effect and use of flight controls.
   b. the Integrated Flight Instruction method.
   c. trim technique.
   d. methods that can be used to overcome tenseness and over controlling.
2. Exhibits instructional knowledge of common errors related to straight descents and descending turns by describing—
   a. improper coordination of flight controls.
   b. failure to cross-check and correctly interpret outside and instrument references.
   c. faulty trim technique.
3. Demonstrates and simultaneously explains straight descents and descending turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight descents and descending turns.

IX. AREA OF OPERATION: PERFORMANCE MANEUVERS

Task A: Steep Turns

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of steep turns by describing—
   a. load factor and angle of bank limitations.
   b. selection of a suitable altitude.
   c. appropriate power setting and airspeed prior to entry.
   d. entry and rollout technique.
   e. bank and power requirements.
   f. effect and use of flight controls.
   g. orientation, division of attention, and planning.
2. Exhibits instructional knowledge of common errors related to steep turns by describing—
   a. improper bank and power coordination during entry and rollout.
   b. uncoordinated use of flight controls.
   c. exceeding manufacturer's recommended maximum bank angle.
   d. improper technique in correcting altitude deviations.
   e. loss of orientation.
   f. excessive deviation from desired heading during rollout.
3. Demonstrates and simultaneously explains steep turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to steep turns.

X. AREA OF OPERATION: FLIGHT AT SLOW AIRSPEEDS

Note: *The evaluator shall select at least one Task.*

Task A: Maneuvering at Slow Airspeeds

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of flight at slow airspeeds in straight-and-level flight, turns, climbs, and descents by describing—
   a. flight characteristics and controllability associated with these maneuvers.
   b. relationship of airspeed/rotor RPM to critical flight situations.
   c. establishment and maintenance of a specified airspeed in straight-and-level flight, turns, climbs, and descents.
   d. coordination of flight controls.
   e. proper trim technique.
   f. re-establishment of cruising flight.
2. Exhibits instructional knowledge of common errors related to flight at slow airspeeds in straight-and-level flight, turns, climbs, and descents by describing—
   a. improper entry technique.
   b. failure to establish and maintain an appropriate airspeed.
   c. excessive variations of altitude and heading when a constant altitude and heading are specified.
   d. use of too steep a bank angle.
   e. rough or uncoordinated control technique.
   f. faulty trim technique.
3. Demonstrates and simultaneously explains flight at slow airspeeds in straight-and-level flight, turns, climbs, and descents from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to flight at slow airspeeds in straight-and-level flight, turns, climbs, and descents.

Task B: High Rate of Descent and Recovery

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of high rate of descent and recovery by describing—
    a. related aerodynamic factors.
    b. flight situations for the intentional use of a high rate of descent and recovery.
    c. flight situations leading to an inadvertent entry into a high rate of descent.
    d. recognition of a high rate of descent.
    e. proper technique for an intentional power-on and power-off entry.
    f. use of height velocity chart in determining minimum recovery altitude.
    g. proper technique for a power-on and power-off recovery.
2. Exhibits instructional knowledge of common errors related to high rate of descent and recovery by describing—
    a. improper entry technique.
    b. failure to recognize a high rate of descent.
    c. improper use of controls during recovery.
    d. initiation of recovery below minimum recovery altitude.
3. Demonstrates and simultaneously explains high rate of descent and recovery from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to high rate of descent and recovery.

XI. AREA OF OPERATION: GROUND REFERENCE MANEUVERS

Note: *The evaluator shall select at least one Task.*

Task A: Rectangular Course

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a rectangular course by describing—
   a. how to select a suitable altitude.
   b. how to select a suitable ground reference with consideration given to emergency landing areas.
   c. orientation, division of attention, and planning.
   d. airspeed prior to entry.
   e. relationship of a rectangular course to an airport traffic pattern.
   f. wind drift correction.
   g. how to maintain desired altitude, airspeed, and distance from ground reference boundaries.
   h. timing of turn entries and rollouts.
   i. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to a rectangular course by describing—
   a. poor planning, orientation, or division of attention.
   b. uncoordinated flight control application.
   c. improper correction for wind drift.
   d. failure to maintain selected altitude or airspeed.
   e. selection of a ground reference where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains a rectangular course from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a rectangular course.

Task B: S-Turns Across a Road

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of S-turns across a road by describing—
    a. how to select a suitable altitude.
    b. how to select a suitable ground reference line with consideration given to emergency landing areas.
    c. orientation, division of attention, and planning.
    d. airspeed prior to entry.
    e. entry technique.
    f. wind drift correction.
    g. tracking of semicircles of equal radii on either side of the selected ground reference line.
    h. how to maintain desired altitude and airspeed.
    i. turn reversal over the ground reference line.
    j. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to S-turns across a road by describing—
    a. faulty entry technique.
    b. poor planning, orientation, or division of attention.
    c. uncoordinated flight control application.
    d. improper correction for wind drift.
    e. an unsymmetrical ground track.
    f. failure to maintain selected altitude and/or airspeed.
    g. selection of a ground reference line where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains S-turns across a road from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to S-turns across a road.

Task C: Turns Around a Point

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of turns around a point by describing—
    a. how to select a suitable altitude.
    b. how to select a suitable ground reference point with consideration given to emergency landing areas.
    c. orientation, division of attention, and planning.
    d. airspeed prior to entry.
    e. entry technique.
    f. wind drift correction.
    g. how to maintain desired altitude, airspeed, and distance from the reference point.
    h. coordination of flight controls.
2. Exhibits instructional knowledge of common errors related to turns around a point by describing—
    a. faulty entry technique.
    b. poor planning, orientation, or division of attention.
    c. uncoordinated flight control application.
    d. improper correction for wind drift.
    e. failure to maintain selected altitude and/or airspeed.
    f. selection of a ground reference point where there is no suitable emergency landing area within gliding distance.
3. Demonstrates and simultaneously explains turns around a point from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns around a point.

XII. AREA OF OPERATION: EMERGENCY OPERATIONS

Note: *The evaluator shall select at least one Task.*

Task A: Lift-Off at Low Airspeed and High Angle of Attack

Note: *This maneuver may be tested orally at the discretion of the evaluator.*

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to lift-off at low airspeed and high angle of attack by describing—

   a. consideration of wind conditions.
   b. alignment with takeoff path.
   c. initial positioning of flight controls.
   d. prerotation of rotor blades (if applicable).
   e. proper RPM prior to brake release.
   f. a power setting that simulates a “behind the power curve” situation.
   g. directional control during acceleration.
   h. rotation prior to normal lift-off airspeed.
   i. decision to abort or continue takeoff.
   j. establishment of a normal climb.
   k. track during climb.
   l. use of checklist.

2. Exhibits instructional knowledge of common errors related to lift-off at low airspeed and high angle of attack by describing—

   a. failure to check rotor for proper operation, track, and RPM prior to initiating takeoff.
   b. improper initial positioning of flight controls.
   c. use of a power setting that does not simulate a “behind the power curve” situation.
   d. inappropriate removal of hand from throttle.
   e. poor directional control.
   f. rotation at a speed that is inappropriate for the maneuver.
   g. poor judgment in determining whether to abort or continue takeoff.
   h. failure to establish and maintain proper climb attitude and airspeed, if takeoff is continued.
   i. drift during climb.

3. Demonstrates and simultaneously explains a lift-off at low airspeed and high angle of attack from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a lift-off at low airspeed and high angle of attack.

Task B: Emergency Approach and Landing (Simulated)

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to an emergency approach and landing by describing—
    a. prompt establishment of the best-glide airspeed.
    b. how to select a suitable emergency landing area.
    c. planning and execution of approach to the selected landing area.
    d. importance of attempting to determine reason for the malfunction.
    e. importance of dividing attention between flying the approach and accomplishing emergency checklist.
    f. techniques that can be used to compensate for undershooting or overshooting the selected emergency landing area.
2. Exhibits instructional knowledge of common errors related to an emergency approach and landing by describing—
    a. improper airspeed control.
    b. poor judgment in the selection of an emergency landing area.
    c. failure to estimate approximate wind direction and speed.
    d. failure to fly the most suitable pattern for existing situation.
    e. undershooting or overshooting selected emergency landing area.
3. Demonstrates and simultaneously explains an emergency approach with a simulated engine failure from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to an emergency approach with a simulated engine failure.

Task C: Systems and Equipment Malfunctions

References: FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to systems and equipment malfunctions by describing recommended pilot action, appropriate to the gyroplane used for the practical test, in the event of:

1. Smoke or fire during ground or flight operations.
2. Engine malfunction.
3. Oil/fuel system malfunction.
4. Hydraulic system malfunction.
5. Electrical system malfunction.
6. Carburetor or induction icing.
7. Trim system malfunction.
8. Landing gear malfunction.
9. Any other system or equipment malfunction.

Task D: Ground Resonance

References: FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to ground resonance by describing:

1. Aerodynamics involved, and association with, a fully articulated rotor system.
2. Conditions that are conducive to development of ground resonance.
3. Preventive actions used during takeoffs and landings on different surfaces.

Task E: Emergency Equipment and Survival Gear

Reference: Gyroplane Flight Manual.

Objective: To determine that the applicant exhibits instructional knowledge of the elements related to emergency equipment and survival gear appropriate to the gyroplane used for the practical test by describing:

1. Locations in the gyroplane.
2. Method of operation or use.
3. Servicing.
4. Storage.
5. Equipment and gear appropriate for operation in various climates, over various types of terrain, and over water.

XIII. AREA OF OPERATION: POSTFLIGHT PROCEDURES

Task A: After-Landing and Securing

References: FAA-H-8083-9, FAA-H-8083-21; FAA-S-8081-15, FAA-S-8081-16; Gyroplane Flight Manual.

Objective: To determine that the applicant:

1. Exhibits instructional knowledge of the elements of after-landing and securing by describing—
   a. proper technique for parking.
   b. proper procedure for engine shutdown and securing flight deck.
   c. method used to secure rotor blades.
   d. safety concerns for passenger(s) when exiting.
   e. postflight inspection to include use of checklist.
   f. refueling procedures, including safety concerns.
2. Exhibits instructional knowledge of common errors related to after-landing and securing by describing—
   a. hazards resulting from failure to follow recommended procedures.
   b. failure to conduct a postflight inspection and use a checklist.
3. Demonstrates and simultaneously explains after-landing and securing from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to after-landing and securing.