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**Federal Aviation
Administration**

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**FLIGHT INSTRUCTOR
INSTRUMENT
Practical Test Standards**

for

- **AIRPLANE**
- **HELICOPTER**

June 2001

**FLIGHT STANDARDS SERVICE
Washington, DC 20591**

FLIGHT INSTRUCTOR

INSTRUMENT

Practical Test Standards

2001

**FLIGHT STANDARDS SERVICE
Washington, DC 20591**

NOTE

Material in FAA-S-8081-9B will be effective June 1, 2001. All previous editions of the Flight Instructor—Instrument Practical Test Standards will be obsolete as of this date.

FOREWORD

The Flight Instructor—Instrument Practical Test Standards (PTS) book has been published by the Federal Aviation Administration (FAA) to establish the standards for flight instructor certification and instrument rating practical tests for airplanes and helicopters. FAA inspectors and designated pilot examiners shall conduct practical tests in compliance with these standards. Flight instructors and applicants should find these standards helpful during training and when preparing for the practical test.

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INTRODUCTION

General Information

The Flight Standards Service of the Federal Aviation Administration (FAA) has developed this practical test book as the standard that shall be used by FAA inspectors and designated pilot examiners when conducting flight instructor—instrument (airplane and helicopter) practical tests. Flight instructors are expected to use this book when preparing applicants for practical tests. Applicants should be familiar with this book and refer to these standards during their training.

Information considered directive in nature is described in this practical test book 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.

The FAA gratefully acknowledges the valuable assistance provided by many individuals and organizations throughout the aviation community who contributed their time and talent in assisting with the revision of these practical test standards.

This practical test standard may be downloaded from the Regulatory Support Division's, AFS-600, web site at <http://afs600.faa.gov>. Subsequent changes to this standard, in accordance with AC 60-27, Announcement of Availability: Changes to Practical Test Standards, will also be available on AFS-600's web site and then later incorporated into a printed revision.

This publication may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Comments regarding this publication should be sent to:

U.S. Department of Transportation
Federal Aviation Administration
Flight Standards Service
Airman Testing Standards Branch, AFS-630
P.O. Box 25082
Oklahoma City, OK 73125

Practical Test Standard Concept

Title 14 of the Code of Federal Regulations (14 CFR) part 61 specifies the areas in which knowledge and skill must be demonstrated by the applicant before the issuance of a flight instructor certificate with the associated category and class ratings. The CFR's provide the flexibility to permit the FAA to publish practical test standards containing the AREAS OF OPERATION and specific TASKS in which competency shall be demonstrated. The FAA shall revise this book whenever it is determined that changes are needed in the interest of safety. Adherence to the provisions of the regulations and the practical test standards is mandatory for the evaluation of flight instructor applicants.

Test Book Description

This test book contains the practical test standards for flight instructor—instrument (airplane and helicopter).

Practical Test Standards Description

AREAS OF OPERATION are phases of the practical test arranged in a logical sequence within each standard. They begin with Fundamentals of Instructing and end with Postflight Procedures. The examiner, however, may conduct the practical test in any sequence that will result in a complete and efficient test. Notwithstanding the above, the oral portion of the practical test shall be completed prior to 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 and maneuver tolerances are not included in these 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.

These practical test standards are based on the following references:

14 CFR part 1	Definitions and Abbreviations
14 CFR part 61	Certification: Pilots and Flight Instructors
14 CFR part 91	General Operating and Flight Rules
14 CFR part 95	IFR Altitudes
14 CFR part 97	Standard Instrument Approach Procedures
NTSB Part 830	Notification and Reporting of Aircraft Accidents and Incidents
AC 00-2	Advisory Circular Checklist
AC 00-6	Aviation Weather
AC 00-45	Aviation Weather Services
AC 61-23	Pilot's Handbook of Aeronautical Knowledge
AC 61-65	Certification: Pilots and Flight Instructors
AC 61-67	Stall and Spin Awareness Training
AC 61-84	Role of Preflight Preparation
AC 61-98	Currency and Additional Qualification Requirements for Certificated Pilots
AC 90-48	Pilots' Role in Collision Avoidance
AC 90-94	Guidelines for Using Global Positioning Systems
FAA-H-8083-9	Aviation Instructor's Handbook
FAA-H-8083-15	Instrument Flying Handbook
FAA-S-8081-4	Instrument Rating Practical Test Standards
AIM	Aeronautical Information Manual
IAP's	Instrument Approach Procedures
DP's	Departure Procedures
STAR's	Standard Terminal Arrivals
AFD	Airport/Facility Directory
NOTAM's	Notices to Airmen
	Enroute Low Altitude Charts
	Appropriate Aircraft Flight Manuals

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 should be able to do;
2. conditions under which the TASK is to be performed; and
3. acceptable performance standards.

The examiner determines that the applicant meets the TASK Objective through the demonstration of competency in all elements of knowledge and/or skill unless otherwise noted. The Objectives of TASKS in certain AREAS OF OPERATION, such as Fundamentals of Instructing and Technical Subjects, include only knowledge elements. Objectives of TASKS in 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. The 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 INSTRUMENT PILOT skill level; the teaching techniques and procedures should conform to those set forth in FAA-H-8083-9, Aviation Instructor's Handbook and FAA-H-8083-15, Instrument Flying Handbook; and
4. the ability to analyze and correct common errors related to a TASK.

Use of the Practical Test Standards Book

The FAA requires that all practical tests are conducted in accordance with the appropriate flight instructor practical test standards and the policies set forth in the INTRODUCTION.

All of the procedures and maneuvers in the instrument rating 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 time-frame, the examiner shall select one or more TASKS in each AREA OF OPERATION. In certain AREAS OF OPERATION, there are required TASKS which the examiner must select. These required TASKS are identified by a **NOTE** immediately following each AREA OF OPERATION title.

In preparation for each practical test, the examiner shall develop a written "plan of action." The examiner shall 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 examiner should avoid using the same optional TASKS in order to avoid becoming stereotyped. 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 Additional Rating Table located on page 12. 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.

Applicant shall be expected to perform TASK H in AREA OF OPERATION VI, Recovery from Unusual Attitudes and TASK A in AREA OF OPERATION VIII, Non-precision Instrument Approach using a view-limiting device.

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 this practical test standard. Throughout the flight portion of the practical test, the examiner shall evaluate the applicant's ability to demonstrate and simultaneously explain the selected procedures and maneuvers, and to give flight instruction to students at various stages of flight training and levels of experience. The term "instructional knowledge" 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 of including common errors in certain TASKS is to assist the examiner in determining that the flight instructor applicant has the ability to recognize, analyze, and correct such errors. The examiner will not simulate any condition that may jeopardize safe flight or result in possible damage to the aircraft. The common errors listed in the TASKS objective may or may not be found in the TASK References. However, the FAA considers their frequency of occurrence justification for inclusion in the TASK Objectives.

Special Emphasis Areas

The examiner shall place special emphasis on the applicant's demonstrated ability to teach precise aircraft control and sound judgment in aeronautical decision making. Evaluation of the applicant's ability to teach judgment shall be accomplished by asking the applicant to describe the presentation of practical problems that would be used in instructing students in the exercise of sound judgment. The examiner shall also emphasize the evaluation of the applicant's demonstrated ability to teach ***spatial disorientation, wake turbulence and low level wind shear avoidance, checklist usage, positive exchange of flight controls, runway incursion avoidance, and any other directed special emphasis areas.***

Practical Test Prerequisites

An applicant for a flight instructor—instrument initial certification practical test is required by 14 CFR part 61 to:

1. be at least 18 years of age;
2. be able to read, speak, write, and understand the English language. If there is a doubt, use AC 60-28, English Language Skill Standards;
3. hold either a commercial/instrument pilot or airline transport pilot certificate with an aircraft category rating appropriate to the flight instructor rating sought;
4. have an endorsement from an authorized instructor on the fundamentals of instructing appropriate to the required knowledge test;
5. have passed the appropriate flight instructor knowledge test(s) since the beginning of the 24th month before the month in which he or she takes the practical test;
6. have an endorsement from an authorized instructor certifying that the applicant has been given flight training in the AREAS OF OPERATION listed in 14 CFR part 61, section 61.187 and a written statement from an authorized flight instructor within the preceding 60 days, in accordance with 14 CFR part 61, section 61.39, that instruction was given in preparation for the practical test. The endorsement shall also state that the instructor finds the applicant prepared for the required practical test, and that the applicant has demonstrated satisfactory knowledge of the subject area(s) in which the applicant was deficient on the airman knowledge test.

An applicant holding a flight instructor certificate who applies for an **additional** rating on that certificate is required by 14 CFR to:

1. hold a valid pilot certificate with ratings appropriate to the flight instructor rating sought;
2. have at least 15 hours as pilot-in-command in the category and class aircraft appropriate to the rating sought;
3. have passed the appropriate knowledge test prescribed for the issuance of a flight instructor certificate with the rating sought since the beginning of the 24th month before the month in which he/she takes the practical test; and
4. have an endorsement from an authorized instructor certifying that the applicant has been given flight training in the AREAS OF OPERATION listed in 14 CFR part 61, section 61.187 and a written statement from an authorized flight instructor within the preceding 60 days, in accordance with 14 CFR part 61, section 61.39, that instruction was given in preparation for the

practical test. The endorsement shall also state that the instructor finds the applicant prepared for the required practical test, and that the applicant has demonstrated satisfactory knowledge of the subject area(s) in which the applicant was deficient on the airman knowledge test.

Aircraft and Equipment Required for the Practical Test

The flight instructor—instrument applicant is required by 14 CFR part 61, section 61.45, to provide an airworthy, certificated aircraft for use during the practical test. This section further requires that the aircraft must:

1. have fully functioning dual controls, and
2. be capable of performing all AREAS OF OPERATION appropriate for the instructor rating sought and have no operating limitations, which prohibit its use in any of the AREAS OF OPERATION required for the practical test.

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 students. 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 students with varying backgrounds and levels of experience and ability;
3. able to perform the procedures and maneuvers included in the standards to the INSTRUMENT PILOT skill level 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.

Examiner¹ Responsibility

The examiner conducting the practical test is responsible for determining that the applicant meets acceptable standards of teaching ability, knowledge, and skill in the selected TASKS. The examiner 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 the INSTRUMENT 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 ground or flight portion of 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 examiner shall act as a student during selected maneuvers. This will give the examiner an opportunity to evaluate the flight instructor applicant's ability to analyze and correct simulated common errors related to these maneuvers. The examiner will also evaluate the applicant's use of visual scanning and collision avoidance procedures, and the applicant's ability to teach those procedures.

Examiners should to the greatest extent possible test the applicant's application and correlation skills. When possible scenario based questions should be used.

¹ The word "examiner" is used throughout the standards to denote either the FAA inspector or FAA designated pilot examiner who conducts an official practical test.

Satisfactory Performance

The practical test is passed if, in the judgment of the examiner, 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 examiner to the INSTRUMENT PILOT skill level while giving effective instruction;
6. competence in teaching the procedures and maneuvers selected by the examiner;
7. competence in describing, recognizing, analyzing, and correcting common errors simulated by the examiner; and
8. knowledge of the development and effective use of a course of training, a syllabus, and a lesson plan.

Unsatisfactory Performance

If, in the judgment of the examiner, the applicant does not meet the standards of performance of any TASK performed, the associated AREA OF OPERATION is failed and therefore, the practical test is failed. The examiner 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 and TASKS satisfactorily performed; however, during the retest and at the discretion of the examiner, any TASK may be re-evaluated, including those previously passed. Specific reasons for disqualification are:

1. failure to perform a procedure or maneuver to the INSTRUMENT 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 examiner);
3. any action or lack of action by the applicant which requires corrective intervention by the examiner 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 examiner shall record the applicant's unsatisfactory performance in terms of AREAS OF OPERATION and TASKS. If the applicant fails the practical test because of a special emphasis area, the Notice of Disapproval shall indicate the associated task. An example would be; AREA OF OPERATION VIII, CIRCLING APPROACH (AIRPLANE), failure to use proper runway incursion avoidance procedures.

Emphasis on Attitude Instrument Flying and Partial Panel Skills

The FAA is concerned about numerous fatal aircraft accidents involving spatial disorientation of instrument rated pilots who have attempted to control and maneuver their aircraft in clouds with inoperative gyroscopic heading and attitude indicators.

Many of the light aircraft operated in instrument meteorological conditions (IMC) are not equipped with dual, independent, gyroscopic heading or attitude indicators. In addition, many are equipped with only a single vacuum source. Therefore, the FAA has stressed that it is imperative for instrument rated pilots to acquire and maintain adequate partial panel skills and that they be cautioned not to be overly reliant upon the gyroscopic instruments.

FAA-S-8081-4, Instrument Rating Practical Test Standards, and FAA-S-8081-9, Flight Instructor—Instrument Practical Test Standards, place increased emphasis on basic attitude instrument flying and require the demonstration of partial panel, non-precision instrument approach procedures. This practical test book, FAA-S-8081-9, emphasizes these areas from an instructional standpoint.

AREA OF OPERATION VI requires the applicant to demonstrate the ability to teach basic instrument flight TASKS under both full panel and partial panel conditions. These TASKS are described in detail in FAA-H-8083-15, Instrument Flying Handbook. The TASKS require the applicant to exhibit instructional knowledge of attitude instrument flying techniques and procedures and to demonstrate the ability to teach basic instrument maneuvers with both full panel and partial panel.

Examiners should determine that the applicant demonstrates and fully understands the PRIMARY AND SUPPORTING or the CONTROL and PERFORMANCE CONCEPT method of attitude instrument flying.

Crew Resource Management (CRM)

CRM refers to the effective use of all available resources; human resources, hardware, and information. Human resources includes all groups routinely working with the cockpit crew or pilot who are involved with decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, cabin crewmembers, maintenance personnel, air traffic controllers, and weather services. CRM is not a single TASK, but a set of competencies that must be evident in all TASKS in this practical test standard as applied to either single pilot or crew operations.

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 elements of an 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 should 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 applicant's ability to utilize proper control technique while dividing attention both inside and outside the cockpit, the examiner shall 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 students 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 in the exchange of flight controls between pilots is a proven procedure and one that is strongly recommended.

When the instructor wishes the student to take control of the aircraft, he or she will say, "You have the flight controls." The student 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.

ADDITION OF AN INSTRUMENT RATING TO A FLIGHT INSTRUCTOR CERTIFICATE

AREA OF OPERATION	Flight Instructor Certificate and Rating Held			
	AP	RTR	G	IA or H
I	N	N	N	N
II	A & C	A & C	A & C	C
III	B & C	B & C	B & C	C
IV	N	N	N	N
V	Y	Y	Y	N
VI	Y	Y	Y	Y
VII	Y	Y	Y	N
VIII	Y	Y	Y	* A or B
IX	Y	Y	Y	Y
X	Y	Y	Y	Y

LEGEND

AP Airplane
RTR Helicopter/Gyroplane
G Glider
IA or H Instrument Airplane or Helicopter

NOTE: N indicates that the AREA OF OPERATION is not required. Y indicates that the AREA OF OPERATION is to be performed or based on the note in the AREA OF OPERATION. If a TASK (or TASKs) is listed for an AREA OF OPERATION, that TASK (or TASKs) is mandatory.

* Combine with C, D, or E.

RENEWAL OR REINSTATEMENT OF A FLIGHT INSTRUCTOR

REQUIRED AREAS OF OPERATION	NUMBER OF TASKS
II	1
III	1
V	1
VI	2
VII	1
VIII	A OR B COMBINED WITH TASKS C, D, or E
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

Flight Instructor—Instrument

APPOINTMENT WITH INSPECTOR OR EXAMINER:

NAME _____

DATE/TIME _____

- View-limiting Device:
- Aircraft Documents:
 - Airworthiness Certificate
 - Registration Certificate
 - Operating Limitations
- Aircraft Maintenance Records:
 - Logbook Record of Airworthiness Inspections and AD Compliance
- Pilot's Operating Handbook, FAA-Approved Flight Manual

PERSONAL EQUIPMENT

- Practical Test Standards
- Lesson Plan Library
- Current Aeronautical Charts
- Computer and Plotter
- Flight Plan and Flight Log Forms
- Current AIM, Airport Facility Directory, 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
- Airman Knowledge Test Report
- Pilot Logbook with Appropriate Instructor Endorsements
- FAA Form 8060-5, Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- Examiner's Fee (if applicable)

EXAMINER'S PRACTICAL TEST CHECKLIST

Flight Instructor—Instrument

APPLICANT'S NAME _____

LOCATION _____

DATE/TIME _____

I. FUNDAMENTALS OF INSTRUCTING

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

II. TECHNICAL SUBJECT AREAS

- **A.** Aircraft Flight Instruments and Navigation Equipment
- **B.** Aeromedical Factors
- **C.** Regulations and Publications Related to IFR Operations
- **D.** Logbook Entries Related to Instrument Instruction

III. PREFLIGHT PREPARATION

- **A.** Weather Information
- **B.** Cross-Country Flight Planning
- **C.** Instrument Cockpit Check

IV. PREFLIGHT LESSON ON A MANEUVER TO BE PERFORMED IN FLIGHT

- Maneuver Lesson

V. AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES

- **A.** Air Traffic Control Clearances
- **B.** Compliance with Departure, Enroute, and Arrival Procedures and Clearances

VI. FLIGHT BY REFERENCE TO INSTRUMENTS

- **A.** Straight-and-Level Flight
- **B.** Turns
- **C.** Change of Airspeed in Straight-and-Level and Turning Flight
- **D.** Constant Airspeed Climbs and Descents
- **E.** Constant Rate Climbs and Descents
- **F.** Timed Turns to Magnetic Compass Headings
- **G.** Steep Turns
- **H.** Recovery from Unusual Flight Attitudes

VII. NAVIGATION SYSTEMS

- **A.** Intercepting and Tracking Navigational Systems and DME Arcs
- **B.** Holding Procedures

VIII. INSTRUMENT APPROACH PROCEDURES

- **A.** Non-Precision Instrument Approach
- **B.** Precision Instrument Approach
- **C.** Missed Approach
- **D.** Circling Approach (Airplane)
- **E.** Landing from a Straight-In Approach

IX. EMERGENCY OPERATIONS

- **A.** Loss of Communications
- **B.** Loss of Gyro Attitude and Heading Indicators
- **C.** Engine Failure During Straight-and-Level Flight and Turns
- **D.** Instrument Approach—One Engine Inoperative

X. POSTFLIGHT PROCEDURES

- **A.** Checking Instruments and Equipment

I. AREA OF OPERATION: FUNDAMENTALS OF INSTRUCTING

NOTE: The examiner shall select at least TASK E, F, and G and one other task.

A. TASK: 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. Learning theory.
2. Characteristics of learning.
3. Principles of learning.
4. Levels of learning.
5. Learning physical skills.
6. Memory.
7. Transfer of learning.

B. TASK: HUMAN BEHAVIOR AND EFFECTIVE COMMUNICATION

REFERENCE: FAA-H-8083-9.

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

1. Human behavior—
 - a. control of human behavior.
 - b. human needs.
 - c. defense mechanisms.
 - d. the flight instructor as a practical psychologist.
2. Effective communication
 - a. basic elements of communication.
 - b. barriers of effective communication.
 - c. developing communication skills.

C. TASK: 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 methods.
3. Application, by the student, of the material or procedure that was presented.
4. Review and evaluation of student performance.

D. TASK: 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. Material organization.
2. The lecture method.
3. The cooperative or group learning method.
4. The guided discussion method.
5. The demonstration-performance method.
6. Computer-based training method.

E. TASK: 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 explaining:

1. Critique—
 - a. purpose and characteristics of an effective critique.
 - b. methods and ground rules for a critique.
2. Evaluation—
 - a. characteristics of effective oral questions and what types to avoid.
 - b. responses to student questions.
 - c. characteristics and development of effective written test.

- d. characteristics and uses of performance tests, specifically, the FAA Practical Test Standards.

F. TASK: FLIGHT INSTRUCTOR CHARACTERISTICS AND RESPONSIBILITIES

REFERENCE: FAA-H-8083-9.

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

1. Aviation instructor responsibilities in—
 - a. providing adequate instruction.
 - b. establishing standards of performance.
 - c. emphasizing the positive.

2. Flight instructor responsibilities in—
 - a. providing student pilot evaluation and supervision.
 - b. preparing practical test recommendations and endorsements.
 - c. determining requirements for conducting additional training and endorsement requirements.

3. Professionalism as an instructor by—
 - a. explaining important personal characteristics.
 - b. describing methods to minimize student frustration.

G. TASK: PLANNING INSTRUCTIONAL ACTIVITY

REFERENCE: FAA-H-8083-9.

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

1. Developing objectives and standards for a course of training.
2. Theory of building blocks of learning.
3. Requirements for developing a training syllabus.
4. Purpose and characteristics of a lesson plan.

II. AREA OF OPERATION: TECHNICAL SUBJECT AREAS

NOTE: The examiner shall select TASK A and D and at least one other TASK.

A. TASK: AIRCRAFT FLIGHT INSTRUMENTS AND NAVIGATION EQUIPMENT

REFERENCES: FAA-H-8083-15, FAA-S-8081-4.

Objective. To determine that the applicant exhibits instructional knowledge of aircraft:

1. Flight instrument systems and their operating characteristics to include—
 - a. pitot- static system.
 - b. attitude indicator.
 - c. heading indicator/horizontal situation indicator/remote magnetic indicator.
 - d. magnetic compass.
 - e. turn-and-slip indicator/turn coordinator.
2. Navigation equipment and their operating characteristics to include—
 - a. VHF omnirange (VOR).
 - b. distance measuring equipment (DME).
 - c. instrument landing system (ILS)
 - d. marker beacon receiver/indicators.
 - e. automatic direction finder (ADF).
 - f. global positioning system (GPS).
3. Antiice/deicing and weather detection equipment and their operating characteristics to include—
 - a. airframe.
 - b. propeller or rotor.
 - c. air intake.
 - d. fuel system.
 - e. pitot-static system.
 - f. radar/lightning detection system.

B. TASK: AEROMEDICAL FACTORS

REFERENCES: AC 61-23; AIM.

Objective. To determine that the applicant exhibits instructional knowledge of the elements related to aeromedical factors by describing the effects, corrective action, and safety considerations of:

1. Hypoxia.
2. Hyperventilation.
3. Middle ear and sinus problems.
4. Spatial disorientation.
5. Motion sickness.
6. Alcohol and drugs.
7. Carbon monoxide poisoning.
8. Evolved gases from scuba diving.
9. Stress and fatigue.

C. TASK: REGULATIONS AND PUBLICATIONS RELATED TO IFR OPERATIONS

REFERENCES: 14 CFR parts 61, 91, 95, and 97; FAA-H-8083-15; AIM.

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

1. 14 CFR parts 61, 91, 95, and 97.
2. FAA-H-8083-15, Instrument Flying Handbook.
3. Aeronautical Information Manual.
4. Practical Test Standards.
5. Airport Facility Directory.
6. Standard Departures/Terminal Arrivals.
7. En route Charts.
8. Standard Instrument Approach Procedure Charts.

D. TASK: LOGBOOK ENTRIES RELATED TO INSTRUMENT INSTRUCTION

REFERENCES: 14 CFR part 61; AC 61-65; AC 61-98.

Objective. To determine that the applicant exhibits instructional knowledge of logbook entries related to instrument instruction by describing:

1. Logbook entries or training records for instrument flight/instrument flight instruction or ground instruction given.
2. Preparation of a recommendation for an instrument rating practical test, including appropriate logbook entry.
3. Required endorsement of a pilot logbook for satisfactory completion of an instrument proficiency check.
4. Required flight instructor records.

III. AREA OF OPERATION: PREFLIGHT PREPARATION

NOTE: The examiner shall select at least one TASK.

A. TASK: WEATHER INFORMATION

NOTE: Where current weather reports, forecasts, or other pertinent information is not available, this information shall be simulated by the examiner in a manner, which shall adequately measure the applicant's competence.

REFERENCES: AC 00-6, AC 00-45; FAA-S-8081-4; AIM.

Objective. To determine that the applicant exhibits instructional knowledge related to IFR weather information.

1. Sources of weather—
 - a. AWOS, ASOS, and ATIS reports.
 - b. PATWAS AND TIBS.
 - c. TWEB.

2. Weather reports and charts—
 - a. METAR, TAF, FA, and radar reports.
 - b. inflight weather advisories.
 - c. surface analysis, weather depiction, and radar summary charts.
 - d. significant weather prognostic charts.
 - e. winds and temperatures aloft charts.

B. TASK: CROSS-COUNTRY FLIGHT PLANNING

REFERENCES: 14 CFR part 91; FAA-H-8083-15, FAA-S-8081-4; AIM.

Objective. To determine that the applicant exhibits instructional knowledge of cross-country flight planning by describing the:

1. Regulatory requirements for instrument flight within various types of airspace.
2. Computation of estimated time en route and total fuel requirement for an IFR cross-country flight.
3. Selection and correct interpretation of the current and applicable

en route charts, DP's, STAR's, and standard instrument approach procedure charts.

4. Procurement and interpretation of the applicable NOTAM information.
5. Preparation and filing of an actual or simulated IFR flight plan.

C. TASK: INSTRUMENT COCKPIT CHECK

REFERENCES: 14 CFR part 91; FAA-H-8083-15, FAA-S-8081-4.

Objective. To determine that the applicant exhibits instructional knowledge of an instrument cockpit check by describing the reasons for the check and the detection of defects that could affect safe instrument flight. The check shall include:

1. Communications equipment.
2. Navigation equipment.
3. Magnetic compass.
4. Heading indicator/horizontal situation indicator/remote magnetic indicator.
5. Attitude indicator.
6. Altimeter.
7. Turn-and-slip indicator/turn coordinator.
8. Vertical-speed indicator.
9. Airspeed indicator.
10. Outside air temperature.
11. Clock.

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

NOTE: The examiner shall select at least one maneuver from AREAS OF OPERATION VI through IX and ask the applicant to present a preflight lesson on the selected maneuver as the lesson would be taught to a student. Previously developed lesson plans from the applicant's library may be used.

TASK: MANEUVER LESSON

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

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: AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES

NOTE: The examiner shall select at least one TASK.

A. TASK: AIR TRAFFIC CONTROL CLEARANCES

REFERENCES: 14 CFR part 91; FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant exhibits instructional knowledge of air traffic control clearances by describing:

1. Pilot and controller responsibilities to include tower, en route control, and clearance void times.
2. Correct and timely copying of an ATC clearance.
3. Correct and timely read-back of an ATC clearance, using standard phraseology.
4. Correct interpretation of an ATC clearance and, when necessary, request for clarification, verification, or change.
5. Setting of communication and navigation frequencies in compliance with an ATC clearance.

B. TASK: COMPLIANCE WITH DEPARTURE, EN ROUTE, AND ARRIVAL PROCEDURES AND CLEARANCES

REFERENCES: 14 CFR part 91; FAA-H-8083-15; FAA-S-8081-4; AIM.

Objective. To determine that the applicant exhibits instructional knowledge of the elements related to compliance with departure, en route, and arrival procedures and clearances by describing:

1. Selection and use of current and appropriate navigation publications.
2. Pilot and controller responsibilities with regard to SID's, En Route Low and High Altitude Charts, and STAR's.
3. Selection and use of appropriate communications frequencies.
4. Selection and identification of the navigation aids.
5. Accomplishment of the appropriate checklist items.
6. Pilot's responsibility for compliance with vectors and also altitude, airspeed, climb, descent, and airspace restrictions.
7. Pilot's responsibility for the interception of courses, radials, and bearings appropriate to the procedure, route, or clearance.
8. Procedures to be used in the event of two-way communications failure.

VI. AREA OF OPERATION: FLIGHT BY REFERENCE TO INSTRUMENTS

NOTE: The examiner shall select TASK H and at least one other TASK. The applicant shall select either the primary and supporting or control and performance method for teaching this AREA OF OPERATION.

A. TASK: STRAIGHT-AND-LEVEL FLIGHT

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of teaching straight-and-level flight by describing—
 - a. the relationship of pitch, bank, and power in straight-and-level flight.
 - b. procedure using full panel and partial panel
 - c. coordination of controls and trim.
2. Exhibits instructional knowledge of common errors related to straight-and-level flight by describing—
 - a. slow or improper cross-check during straight-and-level flight.
 - b. improper power control.
 - c. failure to make smooth, precise corrections, as required.
 - d. uncoordinated use of controls.
 - e. improper trim control.
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.

B. TASK: TURNS

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of teaching turns by describing—
 - a. the relationship of true airspeed and angle of bank to a standard rate turn.
 - b. technique and procedure using full panel and partial panel for entry and recovery of a constant rate turn, including the performance of a half-standard rate turn.
 - c. coordination of controls and trim.
2. Exhibits instructional knowledge of common errors related to turns by describing—
 - a. improper cross-check procedures.
 - b. improper bank control during roll-in and roll-out.
 - c. failure to make smooth, precise corrections, as required.
 - d. uncoordinated use of controls.
 - e. improper trim technique.
3. Demonstrates and simultaneously explains turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to turns.

C. TASK: CHANGE OF AIRPPEED IN STRAIGHT-AND-LEVEL AND TURNING FLIGHT

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of teaching change of airspeed
in straight-and-level flight and turns by describing—
 - a. procedure using full panel and partial panel for maintaining altitude and changing airspeed in straight-and-level and turning flight.
 - b. coordination of controls and trim technique.
2. Exhibits instructional knowledge of common errors related to changes of airspeed in straight-and-level and turning flight by describing—
 - a. slow or improper cross-check during straight-and-level flight and turns.
 - b. improper power control.
 - c. failure to make smooth, precise corrections, as required.
 - d. uncoordinated use of controls.
 - e. improper trim technique.
3. Demonstrates and simultaneously explains changes of airspeed
in straight-and-level and turning flight from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to changes of airspeed in straight-and-level and turning flight.

D. TASK: CONSTANT AIRSPEED CLIMBS AND DESCENTS

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of constant airspeed climbs and descents by describing—
 - a. procedure using full panel and partial panel for an entry into a straight climb or climbing turn, from either cruising or climbing airspeed.
 - b. a stabilized straight climb or climbing turn.
 - c. a level-off from a straight climb or climbing turn, at either cruising or climbing airspeed.
 - d. procedure using full panel and partial panel for an entry into a straight descent or descending turn from either cruising or descending airspeed.
 - e. a stabilized straight descent or descending turn.
 - f. a level-off from a straight descent or descending turn, at either cruising or descending airspeed.
2. Exhibits instructional knowledge of common errors related to constant airspeed climbs and descents by describing—
 - a. failure to use a proper power setting and pitch attitude.
 - b. improper correction of vertical rate, airspeed, heading, or rate-of-turn errors.
 - c. uncoordinated use of controls.
 - d. improper trim control.
3. Demonstrates and simultaneously explains a constant airspeed climb and a constant airspeed descent from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to constant airspeed climbs and descents.

E. TASK: CONSTANT RATE CLIMBS AND DESCENTS

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

- 1 Exhibits instructional knowledge of constant rate climbs and descents by describing—
 - a. procedure using full panel and partial panel for an entry into a constant rate climb or descent.
 - b. a stabilized constant rate straight climb or climbing turn, using the vertical speed indicator.
 - c. a level-off from a constant rate straight climb or climbing turn.
 - d. an entry into a constant rate straight descent or descending turn.
 - e. a stabilized constant rate straight descent or descending turn using the vertical speed indicator.
 - f. level-off from a constant rate straight descent or descending turn.
2. Exhibits instructional knowledge of common errors related to constant rate climbs and descents by describing—
 - a. failure to use a proper power setting and pitch attitude.
 - b. improper correction of vertical rate, airspeed, heading, or rate-of-turn errors.
 - c. uncoordinated use of controls.
 - d. improper trim control.
3. Demonstrates and simultaneously explains a constant rate climb and a constant rate descent from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to constant rate climbs and descents.

F. TASK: TIMED TURNS TO MAGNETIC COMPASS HEADINGS

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of timed turns to magnetic compass headings by describing—
 - a. operating characteristics and errors of the magnetic compass.
 - b. calibration of the miniature aircraft of the turn coordinator,² both right and left, using full panel and the clock.
 - c. procedures using full panel and partial panel performing compass turns to a specified heading.
2. Exhibits instructional knowledge of common errors related to timed turns to magnetic compass headings by describing—
 - a. incorrect calibration procedures.
 - b. improper timing.
 - c. uncoordinated use of controls.
 - d. improper trim control.
3. Demonstrates and simultaneously explains timed turns to magnetic compass headings from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to timed turns to magnetic compass headings.

²If the aircraft used for the practical test has a turn needle, substitute turn needle for miniature aircraft of turn coordinator.

G. TASK: STEEP TURNS

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of steep turns by describing—
 - a. procedure using full panel and partial panel for entry and recovery of a steep turn.
 - b. the need for a proper instrument cross-check.
 - c. roll-in/roll-out procedure.
 - d. coordination of control and trim.
2. Exhibits instructional knowledge of common errors related to steep turns by describing—
 - a. failure to recognize and make proper corrections for pitch, bank, or power errors.
 - b. failure to compensate for precession of the horizon bar of the attitude indicator.
 - c. uncoordinated use of controls.
 - d. improper trim technique.
3. Demonstrates and simultaneously explains steep turns from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to steep turns.

H. TASK: RECOVERY FROM UNUSUAL FLIGHT ATTITUDES

REFERENCES: FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of recovery from unusual flight attitudes by describing—
 - a. conditions or situations which contribute to the development of unusual flight attitudes.
 - b. procedure using full panel and partial panel for recovery from nose-high and nose-low unusual flight attitudes.
2. Exhibits instructional knowledge of common errors related to recovery from unusual flight attitudes by describing—
 - a. incorrect interpretation of the flight instruments.
 - b. inappropriate application of controls
3. Demonstrates and simultaneously explains recovery from unusual flight attitudes, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to recovery from unusual flight attitudes.

VII. AREA OF OPERATION: NAVIGATION SYSTEMS

NOTE: The examiner shall select TASK A and B. If aircraft is not DME equipped, performance of DME arcs shall be tested orally.

A. TASK: INTERCEPTING AND TRACKING NAVIGATIONAL SYSTEMS AND DME ARCS

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements of intercepting and tracking navigational systems and DME arcs by describing—
 - a. tuning and identification of a navigational facility.
 - b. setting of a selected course on the navigation selector or the correct identification of a selected bearing on the RMI.
 - c. method for determining aircraft position relative to a facility.
 - d. procedure for intercepting and maintaining a selected course.
 - e. procedure for intercepting and maintaining a DME arc.
 - f. procedure for intercepting a course or localizer from a DME arc.
 - g. recognition of navigation facility or waypoint passage.
 - h. recognition of navigation receiver or facility failure.
2. Exhibits instructional knowledge of common errors related to intercepting and tracking navigational systems and DME arcs by describing—
 - a. incorrect tuning and identification procedures.
 - b. failure to properly set the navigation selector on the course to be intercepted.
 - c. failure to use proper procedures for course or DME arc interception and tracking.
 - d. improper procedures for intercepting a course or localizer from a DME arc.
3. Demonstrates and simultaneously explains intercepting and tracking navigational systems and DME arcs from an

instructional standpoint.

4. Analyzes and corrects simulated common errors related to intercepting and tracking navigational systems and DME arcs.

B. TASK: HOLDING PROCEDURES

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of holding procedures by describing—
 - a. setting of aircraft navigation equipment.
 - b. requirement for establishing the appropriate holding airspeed for the aircraft and altitude.
 - c. recognition of arrival at the holding fix and the prompt initiation of entry into the holding pattern.
 - d. timing procedure.
 - e. correction for wind drift.
 - f. use of DME in a holding pattern.
 - g. compliance with ATC reporting requirements.
2. Exhibits instructional knowledge of common errors related to holding procedures by describing—
 - a. incorrect setting of aircraft navigation equipment.
 - b. inappropriate altitude, airspeed, and bank control.
 - c. improper timing.
 - d. improper wind drift correction.
 - e. failure to recognize holding fix passage.
 - f. failure to comply with ATC instructions.
3. Demonstrates and simultaneously explains holding procedures from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to holding procedures.

VIII. AREA OF OPERATION: INSTRUMENT APPROACH PROCEDURES

NOTE: The examiner shall select TASKS A and B, to be combined with TASK C, D, or E. At least one non-precision approach procedure shall be accomplished without the use of the gyroscopic heading and attitude indicators under simulated instrument conditions. Circling approaches are not applicable to helicopters.

A. TASK: NON-PRECISION INSTRUMENT APPROACH

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a nonprecision instrument approach by describing—
 - a. selection of the appropriate instrument approach procedure chart.
 - b. pertinent information on the selected instrument approach chart.
 - c. radio communications with ATC and compliance with ATC clearances, instructions and procedures.
 - d. appropriate aircraft configuration, airspeed, and checklist items.
 - e. selection, tuning, identification, and determination of operational status of ground and aircraft navigation equipment.
 - f. adjustments applied to the published MDA and visibility criteria for the aircraft approach category.
 - g. maintenance of altitude, airspeed, and track, where applicable.
 - h. establishment and maintenance of an appropriate rate of descent during the final approach segment.
 - i. factors that should be considered in determining whether:
 - (1) the approach should be continued straight-in to a landing;
 - (2) a circling approach to a landing should be made; or
 - (3) a missed approach should be performed.
2. Exhibits instructional knowledge of common errors related to a non-precision instrument approach by describing—

- a. failure to have essential knowledge of the information on the instrument approach chart.
 - b. incorrect communications procedures or noncompliance with ATC clearances or instructions.
 - c. failure to accomplish checklist items.
 - d. faulty basic instrument flying technique.
 - e. inappropriate descent below the MDA.
3. Demonstrates and simultaneously explains a non-precision instrument approach from an instructional standpoint.
 4. Analyzes and corrects simulated common errors related to a non-precision instrument approach.

B. TASK: PRECISION INSTRUMENT APPROACH

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of a precision instrument approach by describing—
 - a. selection of the appropriate instrument approach chart.
 - b. pertinent information on the selected instrument approach chart.
 - c. selection, tuning, identification, and determination of operational status of ground and aircraft navigation equipment.
 - d. radio communications with ATC and compliance with ATC clearances, instructions and procedures.
 - e. appropriate aircraft configuration, airspeed, and checklist items.
 - f. adjustments applied to the published DH/DA and visibility criteria for the aircraft approach category.
 - g. maintenance of altitude, airspeed, and track, where applicable.
 - h. establishment and maintenance of an appropriate rate of descent during the final approach segment.
 - i. factors that should be considered in determining whether:
 - (1) the approach should be continued straight-in to a landing;
 - (2) a circling approach to a landing should be made; or
 - (3) a missed approach should be performed.
2. Exhibits instructional knowledge of common errors related to a precision instrument approach by describing—
 - a. failure to have essential knowledge of the information on the instrument approach procedure chart.
 - b. incorrect communications procedures or noncompliance with ATC clearances.
 - c. failure to accomplish checklist items.
 - d. faulty basic instrument flying technique.
 - e. inappropriate application of DH/DA.
3. Demonstrates and simultaneously explains a precision

instrument approach from an instructional standpoint.

4. Analyzes and corrects simulated common errors related to a precision instrument approach.

C. TASK: MISSED APPROACH

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of a missed approach procedure by describing—
 - a. pertinent information on the selected instrument approach chart.
 - b. conditions requiring a missed approach.
 - c. initiation of the missed approach, including the prompt application of power, establishment of a climb attitude, and reduction of drag.
 - d. required report to ATC.
 - e. compliance with the published or alternate missed approach procedure.
 - f. notification of ATC if the aircraft is unable to comply with a clearance, instruction, restriction, or climb gradient.
 - g. performance of recommended checklist items appropriate to the go-around procedure.
 - h. importance of positive aircraft control.
2. Exhibits instructional knowledge of common errors related to a missed approach by describing—
 - a. failure to have essential knowledge of the information on the instrument approach chart.
 - b. failure to recognize conditions requiring a missed approach.
 - c. failure to promptly initiate a missed approach.
 - d. failure to make the required report to ATC.
 - e. failure to comply with the missed approach procedure.
 - f. faulty basic instrument flying technique.
 - g. descent below the MDA prior to initiating a missed approach.
3. Demonstrates and simultaneously explains a missed approach from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a missed approach.

D. TASK: CIRCLING APPROACH (Airplane)

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements of a circling approach by describing—
 - a. selection of the appropriate circling approach maneuver considering the maneuvering capabilities of the aircraft.
 - b. circling approach minimums on the selected instrument approach chart.
 - c. compliance with advisories, clearances instructions, and/or restrictions.
 - d. importance of flying a circling approach pattern that does not exceed the published visibility criteria.
 - e. maintenance of an altitude no lower than the circling MDA until in a position from which a descent to a normal landing can be made.
2. Exhibits instructional knowledge of common errors related to a circling approach by describing—
 - a. failure to have essential knowledge of the circling approach information on the instrument approach chart.
 - b. failure to adhere to the published MDA and visibility criteria during the circling approach maneuver.
 - c. inappropriate pilot technique during transition from the circling maneuver to the landing approach.
3. Demonstrates and simultaneously explains a circling approach from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to a circling approach.

E. TASK: LANDING FROM A STRAIGHT-IN APPROACH

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to landing from a straight-in approach by describing—
 - a. effect of specific environmental, operational, and meteorological factors.
 - b. transition to, and maintenance of, a visual flight condition.
 - c. adherence to ATC advisories, such as NOTAM's, wind shear, wake turbulence, runway surface, and braking conditions.
 - d. completion of appropriate checklist items.
 - e. maintenance of positive aircraft control.
2. Exhibits instructional knowledge of common errors related to landing from a straight-in approach by describing—
 - a. inappropriate division of attention during the transition from instrument to visual flight conditions.
 - b. failure to complete required checklist items.
 - c. failure to properly plan and perform the turn to final approach.
 - d. improper technique for wind shear, wake turbulence, and crosswind.
 - e. failure to maintain positive aircraft control throughout the complete landing maneuver.
3. Demonstrates and simultaneously explains a landing from a straight-in approach from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to landing from a straight-in approach.

IX. AREA OF OPERATION: EMERGENCY OPERATIONS

NOTE: The examiner shall select at least one TASK. The examiner shall omit TASKS C and D unless the applicant furnishes a multiengine airplane for the practical test, then TASK C or D is mandatory.

A. TASK: LOSS OF COMMUNICATIONS

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant exhibits instructional knowledge of the elements related to loss of communications by describing:

1. Recognition of loss of communications.
2. When to continue with flight plan as filed or when to deviate.
3. How to determine the time to begin an approach at destination.

B. TASK: LOSS OF GYRO ATTITUDE AND HEADING INDICATORS

REFERENCES: 14 CFR part 91; FAA-H-8083-9, FAA-H-8083-15; FAA-S-8081-4; IAP; AIM.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to loss of gyro attitude and heading indicators by describing—
 - a. recognition of inaccurate or inoperative gyro instruments.
 - b. notification of ATC of gyro loss and whether able to continue with flight clearance.
 - c. importance of timely transition from full to partial panel condition.
2. Exhibits instructional knowledge of common errors related to loss of gyro attitude and heading indicators by describing—
 - a. slow to recognize inaccurate or inoperative gyro instruments.
 - b. failure to notify ATC of situation.
 - c. failure to adequately transition from full to partial panel

condition.

3. Demonstrates and simultaneously explains loss of gyro attitude and heading indicators by conducting a non-precision instrument approach without the use of these instruments. (Use Task A, AREA OPERATION VIII)
4. Analyzes and corrects common errors related to loss of gyro attitude and heading indicators.

C. TASK: ENGINE FAILURE DURING STRAIGHT-AND-LEVEL FLIGHT AND TURNS

REFERENCES: 14 CFR part 91; FAA-H-8083-9; FAA-S-8081-4; FAA-S-8081-12; FAA-S-8081-14; Aircraft Flight Manual.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to engine failure during straight-and-level flight and turns, solely by reference to instruments, by describing—
 - a. appropriate methods to be used for identifying and verifying the inoperative engine.
 - b. technique for maintaining positive aircraft control by reference to instruments.
 - c. importance of accurately assessing the aircraft's performance capability with regard to action that maintains altitude or minimum sink rate considering existing conditions.
2. Exhibits instructional knowledge of common errors related to engine failure during straight-and-level flight and turns, solely by reference to instruments, by describing—
 - a. failure to recognize an inoperative engine.
 - b. hazards of improperly identifying and verifying the inoperative engine.
 - c. failure to properly adjust engine controls and reduce drag.
 - d. failure to establish and maintain the best engine inoperative airspeed.
 - e. failure to follow the prescribed checklist.
 - f. failure to establish and maintain the recommended flight attitude for best performance.
 - g. failure to maintain positive aircraft control while maneuvering.
 - h. hazards of exceeding the aircraft's operating limitations.
 - i. faulty basic instrument flying technique.
3. Demonstrates and simultaneously explains straight-and-level flight and turns after engine failure, solely by reference to instruments, from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to straight-and-level flight and turns after engine failure, solely by

reference to instruments.

**D. TASK: INSTRUMENT APPROACH—ONE ENGINE
INOPERATIVE**

REFERENCES: 14 CFR part 91; FAA-H-8083-9; FAA-S-8081-4; FAA-S-8081-12; FAA-S-8081-14; Aircraft Flight Manual.

Objective. To determine that the applicant:

1. Exhibits instructional knowledge of the elements related to an instrument approach with one engine inoperative by describing—
 - a. maintenance of altitude, airspeed and track appropriate to the phase of flight or approach segment.
 - b. procedure if unable to comply with an ATC clearance or instruction.
 - c. application of necessary adjustments to the published MDA and visibility criteria for the aircraft approach category.
 - d. establishment and maintenance of an appropriate rate of descent during the final approach segment.
 - e. factors that should be considered in determining whether:
 - (1) the approach should be continued straight-in to a landing;
 - or
 - (2) a circling approach to a landing should be performed.

2. Exhibits instructional knowledge of common errors related to an instrument approach with one engine inoperative by describing—
 - a. failure to have essential knowledge of the information that appears on the selected instrument approach chart.
 - b. failure to use proper communications procedures.
 - c. noncompliance with ATC clearances.
 - d. incorrect use of navigation equipment.
 - e. failure to identify and verify the inoperative engine and to follow the emergency checklist.
 - f. inappropriate procedure in the adjustment of engine controls and the reduction of drag.
 - g. inappropriate procedure in the establishment and maintenance of the best engine inoperative airspeed.
 - h. failure to establish and maintain the proper flight attitude for best performance.

- i. failure to maintain positive aircraft control.
- j. faulty basic instrument flying technique.
- k. inappropriate descent below the MDA or DH.
- l. faulty technique during roundout and touchdown.

3. Demonstrates and simultaneously explains an instrument approach with one engine inoperative from an instructional standpoint.
4. Analyzes and corrects simulated common errors related to an instrument approach with one engine inoperative.

X. AREA OF OPERATION: POSTFLIGHT PROCEDURES

TASK: CHECKING INSTRUMENTS AND EQUIPMENT

REFERENCES: FAA-S-8081-4; Aircraft Flight Manual.

Objective. To determine that the applicant exhibits instructional knowledge of the elements related to checking instruments and equipment by describing:

1. Importance of noting instruments and navigation equipment for improper operation.
2. Reasons for making a written record of improper operation and/or calibration of instruments prior to next IFR flight.

APPENDIX 1

TASK VS. SIMULATION DEVICE CREDIT

Appendix 1—Levels of Simulation Devices

TASK VS. SIMULATION DEVICE CREDIT

Examiners conducting the instrument rating practical tests with flight simulation devices should consult appropriate documentation to ensure that the device has been approved for training, testing, or checking. The documentation for each device should reflect that the following activities have occurred:

1. The device must be evaluated, determined to meet the appropriate standards, and assigned the appropriate qualification level by the National Simulator Program Manager. The device must continue to meet qualification standards through continuing evaluations as outlined in the appropriate advisory circular (AC). For airplane flight training devices (FTD's), AC 120-45 (as amended), Airplane Flight Training Device Qualifications, will be used. For simulators, AC 120-40 (as amended), Airplane Simulator Qualification, will be used.
2. The FAA must approve the device for training, testing, and checking the specific flight TASKS listed in this appendix.
3. The device must continue to support the level of student or applicant performance required by this practical test standard.

NOTE: Users of the following chart are cautioned that use of the chart alone is incomplete. The description and Objective of each TASK as listed in the body of the practical test standard, including all NOTES, must also be incorporated for accurate simulation device use.

USE OF CHART

- X** Creditable.
- A** Creditable if appropriate systems are installed and operating.

NOTE: 1. Level 1 FTD's that have been issued a letter authorizing their use by the FAA Administrator, and placed in service on or prior to August 2, 1996, may continue to be used only for those TASKS originally found acceptable. Use of Level 1, 2, or 3 FTD's may not be used for aircraft requiring a type rating.

2. If a FTD's or a flight simulator is used for the practical test, the instrument approach procedures conducted in that FTD or flight simulator are limited to one precision and one non-precision approach procedure.

3. Postflight procedures means, closing flight plans, checking for discrepancies and malfunctions, and noting them on a log or maintenance form.

APPENDIX 1

FLIGHT TASK Areas of Operation

FLIGHT SIMULATION DEVICE LEVEL

	1	2	3	4	5	6	7	A	B	C	D
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III. Preflight Preparation

C. Instrument Cockpit Check *	—	<u>A</u>	<u>X</u>	<u>A</u>	<u>A</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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V. Air Traffic Control Clearances and Procedures

A. Air Traffic Control Clearances *	—	<u>A</u>	<u>X</u>	<u>A</u>	<u>A</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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B. Compliance with Departure, En Route, Arrival Procedures and Clearances *	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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VI. Flight by Reference to Instruments

A. Straight-and-Level Flight	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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B. Turns	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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C. Change of Airspeed in Straight-and-Level and Turning Flight	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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D. Constant Airspeed Climbs and Descents	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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E. Constant Rate Climbs and Descents	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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F. Timed Turns to Magnetic Compass Headings	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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G. Steep Turns	—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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H. Recovery from Unusual Attitudes	—	—	—	—	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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FLIGHT TASK
Areas of Operation

FLIGHT SIMULATION DEVICE LEVEL

1 2 3 4 5 6 7 A B C D

VII. Navigation Systems

- A. Intercepting and Tracking Navigational Systems and DME ARC'S
- B. Holding Procedures

—	<u>A</u>	<u>X</u>	—	<u>A</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>

VIII. Instrument Approach Procedures

- A. Non-precision Instrument Approach
- B. Precision Instrument Approach
- C. Missed Approach
- D. Circling Approach (Airplane)
- E. Landing from a Straight-in Approach

—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	—	—	—	—	—	—	—	<u>X</u>	<u>X</u>	<u>X</u>
—	—	—	—	—	—	—	—	—	<u>X</u>	<u>X</u>	<u>X</u>

IX. Emergency Operations (ME) & (SE) **

- A. Loss of Communications
- B. Loss of Gyro Attitude and Heading Indicators
- C. Engine Failure During Straight-and-Level Flight and Turns
- D. Instrument Approach—One Engine Inoperative

—	<u>X</u>	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	—	—	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	<u>X</u>	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
—	—	—	—	—	—	—	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>

X. Postflight Procedures

- Checking Instruments and Equipment

—	<u>A</u>	<u>X</u>	—	<u>A</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
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* Aircraft required for those items that cannot be checked using a flight training device or flight simulator.

** Multiengine and Single-engine