

# **FLIGHT INSTRUCTOR PRACTICAL TEST GUIDE**



**FEDERAL AVIATION AGENCY**

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# **FLIGHT INSTRUCTOR Practical Test Guide**

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**FEDERAL AVIATION AGENCY**

**N. E. Halabý, Administrator**

**Flight Standards Service**



## **PREFACE**

*The Flight Instructor Practical Test Guide* has been prepared by the Flight Standards Service of the Federal Aviation Agency and issued as Advisory Circular 61-14. Its purpose is to assist the certificated pilot in preparing for the practical demonstration required for the issuance of the flight instructor certificate.

The guide provides information on the procedures and standards applicable to the oral and flight portions of the test.



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## **Practical Test Procedures**

### **PHASE I. FLIGHT INSTRUCTOR GROUND TEST**

Before beginning the flight portion of his practical test, the applicant will be required to demonstrate his ability to apply effective instructional techniques to flight training. This will consist of a personal demonstration to the inspector who conducts the test at a place removed from the distractions of the flight line or operations office activities.

#### **A. Techniques of Instruction**

The applicant will be required to demonstrate his knowledge of the following recognized factors and procedures associated with the art of teaching. He may be called upon to illustrate his discussions with diagrams or sketches. He will be required to discuss at least two subjects selected by the inspector from each of the following five subject areas. His discussion should be in sufficient detail to confirm his understanding of the principles involved.

##### **1. Fundamentals of instruction**

- a. The teaching process—preparation, demonstration, practice, and review.
- b. Factors which influence remembering and forgetting.
- c. The meaning and significance of learning curves—their peaks and plateaus.
- d. The meaning of understanding and insight—their relation to the learning process.

- e. "Building block" learning—advancing from parts to the whole objective.
- f. Preparation of an effective teaching environment—classroom arrangement, personal comfort, and absence of distraction.
- g. Instructional management.

## **2. Teaching procedures**

- a. The development lesson—motivation, explanation, application, and evaluation.
- b. Lecture and discussion—student participation.
- c. Use of instructional aids.
- d. Directed study—assignments.
- e. Use of the lesson plan.
- f. The application of progressively higher standards as learning progresses.
- g. Testing—oral quizzing and written examinations.
  - (i) As a teaching tool.
  - (ii) As a measuring tool.

## **3. The instructor-student relationship**

- a. The qualities of a good instructor—friendliness, interest, sincerity, patience, enthusiasm, and fairness.
- b. Analyzing student background, motivation, and ability.
- c. Adjusting instruction to a level appropriate to the student.
- d. Effects of praise and reproof.
- e. Determination of student's understanding.
- f. Recognition and significance of student's mental and physical discomfort.

## **4. Flight training**

- a. The effective use of preflight and postflight instruction.
- b. Advantages of a planned flight curriculum.

- c. Coordination of flight instruction with ground instruction.
- d. Adjustment of lessons to student's ability to learn.
- e. Aircraft familiarization, including flight control effects.
- f. Use of aircraft attitudes, rather than control movements, to describe flight maneuvers.
- g. Describing correct performance of flight training maneuvers selected from list in Phase II of this test.
- h. Appropriate corrections for errors in technique and for hazardous student errors.
- i. Allowing student to do all the flying possible—the importance of learning by doing.
- j. Flight discipline—importance of the observation of aircraft operating limitations, good operating practices, and the Federal Aviation Regulations.

#### **5. Instructor's responsibilities, endorsements, and records**

- a. Student certificate endorsements for solo and solo cross-country.
- b. Student logbook entries and their certification.
- c. Flight test recommendations.
- d. Aircraft checkouts for certificated pilots.
- e. Flight instruction records.

### **B. Preparing a Lesson Plan**

The applicant will be requested to prepare a lesson plan for a flight instruction period appropriate for a student whose level of experience the inspector will designate. This student will normally be assumed to be in the presolo stage of training or, in the case of an applicant for an instrument instructor rating, in a stage which includes both instrument maneuvers and radio navigation.

The lesson plan should include but need not be limited to the following:

1. Objectives of the lesson.
2. List of essential elements, including flight maneuvers, to be covered in the lesson.
3. Estimate of time to be devoted to each phase of the lesson.
4. List of equipment and facilities required for lesson.
5. Teaching sequence to be used.
6. Means for determining when lesson objectives are accomplished.
7. Proposed assignment for subsequent lesson.

The applicant should prepare a lesson plan in writing, on paper or blackboard, and be ready to explain it fully to the inspector so that the inspector understands the applicant's proposed procedure for conducting the flight instruction involved.

When the lesson plan has been approved by the inspector, it will be used as a guide for the conduct of Phase II of the flight instructor practical test.

The following lesson plan is presented as a sample. It is designed for a period of dual instruction on ground reference maneuvers for a student pilot with very little flight experience. The instructor will want to expand his presentation during the instruction period to satisfy the student's requirements.

## SAMPLE LESSON PLAN

Student: \_\_\_\_\_

Date: \_\_\_\_\_

### Lesson: Ground Reference Maneuvers

#### *Objectives—*

- Planning and following a pattern over the ground.
- Compensating for wind drift at varying angles.

#### *Elements—*

- Use of ground references to control flight path.
- Observation and control of wind effect.
- Control of airplane attitude, altitude, and heading.

#### *Schedule—*

Preflight instruction . . . . .	20 min.
Instructor demonstration . . . . .	15 min.
Student practice . . . . .	45 min.
Postflight critique . . . . .	10 min.

#### *Equipment—*

- Blackboard for preflight instruction.
- IFR visor for maneuvers reviewed.

#### *Instructor's Actions—*

- Explain objectives and diagram "S" turns, turns about a point, and rectangular courses on blackboard.
- Flight demonstrations of elements; and following a road, "S" turns, turns about a point, and rectangular courses as student learns each succeeding maneuver.

#### *Student's Actions—*

- Discuss objectives and resolve questions.
- Review and practice straight and level flight, slow flight, and turns to headings.
- Perform each new maneuver as directed, and practice.

#### *Evaluation—*

- Lesson is complete when student can retain orientation, headings within  $15^{\circ}$ , altitude within 100 feet, and initiate wind compensation action in proper direction.

## **PHASE II. FLIGHT DEMONSTRATION**

Phase II of the flight instructor practical test will consist of three principal sections: (1) the conduct of the flight lesson planned in Phase I; (2) a standardization check on the performance of flight training maneuvers; and (3) a postflight discussion. Because the applicant will be assumed to have a personal pilot competence at least equivalent to that required for the issuance of a commercial certificate, the flight demonstration phase of the instructor practical test is intended primarily as a test of the applicant's ability to explain, demonstrate, and evaluate flight training maneuvers.

### **A. Conduct of Planned Flight Lesson**

Implementing the lesson plan prepared as a part of Phase I of his practical test, the applicant will be required to present the entire flight lesson to the inspector as he would to a student, including preflight instructions, the flight maneuvers, and the postflight discussion. During this presentation, the inspector will assume the role of a student, and may ask questions typical of those a student would ask.

The applicant's presentation should conform with the objectives and procedures of the lesson plan, and should establish his ability to apply the principles of instruction which he has described and discussed during Phase I of the test.

### **B. Standardization of Flight Training Maneuvers**

In addition to his demonstration of the planned flight lesson, the applicant will be requested to demonstrate the correct performance of various flight training maneuvers selected by the inspector from the appropriate list which follows. These maneuvers are listed in the *Federal Aviation Regulations, Part*

61, and the FAA *Flight Test Guides* appropriate to the flight instructor privileges sought.

It is essential that every flight instructor has a thorough and accurate understanding of all the training and flight test maneuvers he may be called upon to teach. As an instructor, his ability to perform these maneuvers in an acceptable manner is secondary only to his knowledge of the principles involved and his ability to teach them in an effective, efficient manner.

The applicant's performance will be evaluated on the basis of the accuracy of his procedures in performing training maneuvers, and of his understanding of the objectives and basic elements of flight technique involved in their performance. The accuracy, coordination, timing, and judgment displayed should meet the standards required for the issuance of a commercial pilot certificate.

## **1. Flight instructor—Airplane**

The applicant will be required to explain and demonstrate the correct performance of at least one maneuver or procedure selected from each of the following lists (a thru f) by the inspector. Any indication of weakness in the performance of a maneuver or procedure may cause the inspector to require the performance of all items on the list concerned. In addition to the maneuvers required by the inspector, the applicant will be encouraged to request information and guidance on the preferred procedure for performing others of the maneuvers listed.

### **a. *Normal Operations***

Preflight operations.

Radio communications.

Taxiing.

Normal takeoffs and landings.

Straight and level flight.

Medium turns.

Steep turns.

Climbs and climbing turns.

- Descents, with and without power, in straight flight and in turns.
- b. *Ground Reference Maneuvers*  
Crosswind takeoffs and landings.  
Short-field takeoffs and landings.  
Soft-field takeoffs and landings.  
Full-stall landings (nosewheel type airplanes).  
Wheel landings (tailwheel-type airplanes).  
Power approaches.  
Accuracy approaches and spot landings.  
S turns across a road.  
Turns about a point.  
Pattern eights.  
Rectangular courses and airport traffic patterns.  
Slips.
- c. *Coordination Maneuvers*  
720° power turns.  
Gliding spirals.  
Stalls and slow flight.  
Chandelles.  
Lazy eights.  
Pylon eights.
- d. *Emergency Operations*  
Forced landings.  
Flight emergencies.  
Emergency operation of aircraft equipment.  
Engine-out emergencies (if multien-gine airplane is used).  
Control of airplane by reference to flight instruments.
- e. *Cross-Country Navigation*  
Dead reckoning.  
Pilotage.  
Radio navigation.
- f. *Spins*  
The inspector may accept a logbook record of spin flight instruction in lieu of a demonstration. Such record must indicate that the applicant has demonstrated satisfactory entries and recoveries from spins in both



directions, and shall be certified by the flight instructor who conducted the flight instruction.

## **2. Flight Instructor—Rotorcraft**

The applicant will be required to explain, and demonstrate in a helicopter, the correct performance of at least one maneuver or procedure selected from each of the following lists by the inspector. Any indication of weakness or uncertainty in the performance of a maneuver may cause the inspector to require the performance of all items on the list concerned. Appropriate training maneuvers for flight tests in gyroplanes will be selected from the *Gyroplane Flight Test Guides*. In addition to the maneuvers specified by the inspector, the applicant will be encouraged to request information and guidance on the performance of other standard training maneuvers and procedures in rotorcraft.

- a. *Normal Operations*
  - Preflight operations.
  - Taxiing.
  - Vertical takeoff to hover.
  - Vertical landing from hover.
  - Normal departures from a hover.
  - Normal approaches to a hover.
  - Medium banked turns.
- b. *Precision Maneuvers*
  - Hovering; upwind, crosswind, and downwind.
  - Hovering turns.
  - Pattern flying, with constant and with changing headings.
  - S turns (at 500' altitude).
  - Rapid decelerations (quick stops).
- c. *Special operations*
  - Simulated high-altitude takeoff.
  - Roll-on landing.
  - Crosswind takeoffs and landings.
- d. *Emergencies*
  - Autorotative landings, both to touch-down and with power recovery.
  - Loss of lift at altitude.
  - Engine failure in a hover.

### 3. Flight Instructor—Glider

The applicant will be required to explain, and demonstrate the correct performance of the following procedures and maneuvers in a glider:

- a. *Preflight operations*
- b. *Aircraft tow*
- c. *Auto or winch tow*
- d. *Stalls and slow flight*
- e. *Accuracy 180° approaches and landings*
- f. *Spins* (The inspector may accept a logbook record of spin flight instruction in gliders or light airplanes in lieu of a demonstration. Such a record must indicate that the applicant has demonstrated satisfactory entries and recoveries from spins in both directions, and shall be certified by the flight instructor who conducted the flight instruction.)

### 4. Flight Instructor—Instrument

The applicant will be required to explain and demonstrate the correct performance of at least one maneuver or procedure selected from each of the following lists by the inspector. In addition to the maneuvers specified by the inspector, the applicant will be encouraged to request information and guidance on other standard IFR maneuvers and procedures.

- a. *IFR Flight Planning*  
Preparing an IFR flight log.  
Preparing and filing an instrument flight plan.  
Evaluating aircraft performance, range, and fuel requirements.  
Use and limitations of required instruments and equipment.
- b. *IFR Flight Maneuvers*  
Straight and level flight.  
Turns, climbs, and descents.  
Maneuvering at approach speeds, and stalls.

Steep turns.

Recovery from unusual attitudes.

- c. *Engine-out Maneuvers* (If test is taken in multiengine airplane.)

- d. *Enroute Procedures*

Copy and read-back of instrument flight plans.

Radio navigation, VOR, ADF, or LF ranges.

Radio orientation.

IFR emergencies, including use of partial panel.

- e. *Terminal Area Operations*

Holding procedures.

Missed approach procedure.

Use of radar vectors and DF steers.

Compliance with departure and approach control instructions.

- f. *Standard Instrument Approach* to authorized minimums (not more than 500 feet and 1 mile).

ILS.

VOR.

ADF.

LF range.

### C. Postflight Critique

At the completion of the flight portion of the flight instructor practical test, the applicant will be required to discuss his and the inspector's performance of certain flight maneuvers, pointing out errors and significant features of the procedures demonstrated. His discussions should demonstrate his ability to analyze pilot performance, identify errors and correct performances, and evaluate the significance of each.

Upon successful completion of all other portions of the flight-instructor test, the inspector will discuss with the new instructor the privileges and responsibilities of the flight instructor certificate, the procedures for endorsing Student Pilot Certificates for various operating privileges, and the procedure and responsibilities involved in recommending applicants for flight tests.