



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

**FAA-S-8081-4C  
with Changes 1 & 2**

# **INSTRUMENT RATING Practical Test Standards**

**for**

- **AIRPLANE**
- **HELICOPTER**
- **POWERED LIFT**

**OCTOBER 1998**

**FLIGHT STANDARDS SERVICE  
Washington, DC 20591**

# **INSTRUMENT RATING**

**Practical Test Standards**

**for**

**Airplane**

**Helicopter**

**Powered Lift**

**1998**

**FLIGHT STANDARDS SERVICE  
WASHINGTON, DC 20591**

## **NOTE**

Material in FAA-S-8081-4C will be effective October 1,1998. All previous editions of the Instrument Rating Practical Test Standards will be obsolete as of this date.



## FOREWORD

The Instrument Rating Practical Test Standards (PTS) book is published by the Federal Aviation Administration (FAA) to establish the standards for instrument rating certification practical tests for the airplane, helicopter, and powered lift, category and classes. These practical test standards shall also be used for the instrument portion of the commercial pilot–airship practical test. 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 practical tests.

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Richard O. Gordon  
Acting Director, Flight Standards Service































## RATING TASK TABLE

<b>ADDITIONAL INSTRUMENT RATING DESIRED</b>				
AREA OF OPERATION	Required TASKS are indicated by either the TASK letter(s) that apply(s) or an indication that all or none of the TASKS must be tested.			
	IA	IH	IPL	PC
I	NONE	NONE	NONE	NONE
II	A,C	A,C	A,C	A,B,C
III	NONE	NONE	NONE	A,B,C
IV	A,B,C, D,F,G	A,B,C, D,F,G	A,B,C, D,F,G	A,B,C, D,G
V	NONE	NONE	NONE	ALL
VI	ALL	A,B,C,E	A,B,C,E	ALL*
VII	ALL**	ALL**	ALL**	ALL**
VIII	ALL	ALL	ALL	ALL

### **LEGEND**

**IA** - Instrument airplane

**IH** - Instrument helicopter

**IPL** - Instrument powered lift

**PC** - Proficiency check

**NOTE:** Except as noted, all TASKs are required for *initial issuance* of an instrument rating.

\* TASK D, Circling Approach, is applicable *only* to the *airplane* category.

\*\* TASKS B and C are applicable *only* to *multiengine airplanes*

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## APPLICANT'S PRACTICAL TEST CHECKLIST

### APPOINTMENT WITH EXAMINER:

**EXAMINER'S NAME** \_\_\_\_\_

**LOCATION** \_\_\_\_\_

**DATE/TIME** \_\_\_\_\_

#### ACCEPTABLE AIRCRAFT

- View-limiting device
- Aircraft Documents: Airworthiness Certificate
- Registration Certificate
- Rating Limitations
- Aircraft Maintenance Records: Airworthiness Inspections

#### PERSONAL EQUIPMENT

- Current Aeronautical Charts
- Computer and Plotter
- Flight Plan Form
- Flight Logs
- Current AIM

#### PERSONAL RECORDS

- Identification - Photo/Signature ID
- Pilot Certificate
- Medical Certificate
- Completed FAA Form 8710-1, Application for an Airman Certificate and/or Rating
- Airman Knowledge Test Report
- Logbook with Instructor's Endorsement
- Notice of Disapproval (if applicable)
- Approved School Graduation Certificate (if applicable)
- Examiner's Fee (if applicable)

## EXAMINER'S PRACTICAL TEST CHECKLIST

APPLICANT'S NAME \_\_\_\_\_

LOCATION \_\_\_\_\_

DATE/TIME \_\_\_\_\_

### I. PREFLIGHT PREPARATION

- A. Weather Information
- B. Cross-Country Flight Planning

### II. PREFLIGHT PROCEDURES

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

### III. AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES

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

### IV. FLIGHT BY REFERENCE TO INSTRUMENTS

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

## V. NAVIGATION SYSTEMS

- Intercepting and Tracking Navigational Systems and DME Arcs

## VI. INSTRUMENT APPROACH PROCEDURES

- A. Nonprecision Instrument Approach
- B. Precision ILS Instrument Approach
- C. Missed Approach
- D. Circling Approach
- E. Landing from a Straight-in or Circling Approach

## VII. EMERGENCY OPERATIONS

- A. Loss of Communications
- B. One Engine Inoperative During Straight-and-Level Flight and Turns **(Multiengine Airplane)**
- C. One Engine Inoperative—Instrument Approach **(Multiengine Airplane)**
- D. Loss of Gyro Attitude and/or Heading Indicators

## VIII. POSTFLIGHT PROCEDURES

- Checking Instruments and Equipment

**I. AREA OF OPERATION:  
PREFLIGHT PREPARATION**

**A. TASK: WEATHER INFORMATION**

REFERENCES: 14 CFR part 61; AC 00-6, AC 00-45; AIM.

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

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

1. Exhibits adequate knowledge of the elements related to aviation weather information by obtaining, reading, and analyzing the applicable items, such as—
  - a. weather reports and forecasts.
  - b. pilot and radar reports.
  - c. surface analysis charts.
  - d. radar summary charts.
  - e. significant weather prognostics.
  - f. winds and temperatures aloft.
  - g. freezing level charts.
  - h. stability charts.
  - i. severe weather outlook charts.
  - j. tables and conversion graphs.
  - k. SIGMET's and AIRMET's.
  - l. ATIS reports.
2. Correctly analyzes the assembled weather information pertaining to the proposed route of flight and destination airport, and determines whether an alternate airport is required, and, if required, whether the selected alternate airport meets the regulatory requirement.

**B. TASK: CROSS-COUNTRY FLIGHT PLANNING**

REFERENCES: 14 CFR parts 61, 91; AC 61-27, AC 61-23, AC 90-94; AFD; AIM.

**Objective** To determine that the applicant:

1. Exhibits adequate knowledge of the elements by presenting and explaining a preplanned cross-country flight, as previously assigned by the examiner (preplanning is at examiner's discretion). It should be planned using real time weather and conform to the regulatory requirements for instrument flight rules within the airspace in which the flight will be conducted.
2. Exhibits adequate knowledge of the aircraft's performance capabilities by calculating the estimated time en route and total fuel requirement based upon factors, such as—
  - a. power settings.
  - b. operating altitude or flight level.
  - c. wind.
  - d. fuel reserve requirements.
3. Selects and correctly interprets the current and applicable en route charts, instrument departure procedures (DP's), Standard Terminal Arrival (STAR), and Standard Instrument Approach Procedure Charts (IAP).
4. Obtains and correctly interprets applicable NOTAM information.
5. Determines the calculated performance is within the aircraft's capability and operating limitations.
6. Completes and files a flight plan in a manner that accurately reflects the conditions of the proposed flight. (Does not have to be filed with ATC.)
7. Demonstrates adequate knowledge of Global Positioning Systems (GPS) and Receiver Autonomous Integrity Monitoring (RAIM) capability, when aircraft is so equipped.

**II. AREA OF OPERATION:  
PREFLIGHT PROCEDURES**

**A. TASK: AIRCRAFT SYSTEMS RELATED TO IFR  
OPERATIONS**

REFERENCES: 14 CFR parts 61, 91; AC 61-27, AC 61-84.

**Objective.** To determine that the applicant exhibits adequate knowledge of the elements related to applicable aircraft anti-icing/deicing system(s) and their operating methods to include:

1. Airframe.
2. Propeller/intake.
3. Fuel.
4. Pitot-static.

**B. TASK: AIRCRAFT FLIGHT INSTRUMENTS AND  
NAVIGATION EQUIPMENT**

REFERENCES: 14 CFR parts 61, 91; AC 61-27, AC 61-84, AC 90-48.

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

1. Exhibits adequate knowledge of the elements related to applicable aircraft flight instrument system(s) and their operating characteristics to include—
  - a. pitot-static.
  - b. altimeter.
  - c. airspeed indicator.
  - d. vertical speed indicator.
  - e. attitude indicator.
  - f. horizontal situation indicator.
  - g. magnetic compass.
  - h. turn-and-slip indicator/turn coordinator.
  - i. heading indicator.
  - j. electrical systems.
  - k. vacuum systems.
2. Exhibits adequate knowledge of the applicable aircraft navigation system(s) 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. transponder/altitude encoding.
- f. automatic direction finder (ADF).
- g. global positioning system (GPS)

**C. TASK: INSTRUMENT COCKPIT CHECK**

REFERENCES: 14 CFR parts 61, 91; AC 61-27.

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

1. Exhibits adequate knowledge of the elements related to preflighting instruments, avionics, and navigation equipment cockpit check by explaining the reasons for the check and how to detect possible defects.
2. Performs the preflight on instruments, avionics, and navigation equipment cockpit check by following the checklist appropriate to the aircraft flown.
3. Determines that the aircraft is in condition for safe instrument flight including—
  - a. radio communications equipment.
  - b. radio navigation equipment including the following, as appropriate to the aircraft flown:
    - (1) VOR/VORTAC.
    - (2) ADF.
    - (3) ILS.
    - (4) GPS.
    - (5) LORAN.
  - c. magnetic compass.
  - d. heading indicator.
  - e. attitude indicator.
  - f. altimeter.
  - g. turn-and-slip indicator/turn coordinator.
  - h. vertical speed indicator.
  - i. airspeed indicator.
  - j. clock.
  - k. power source for gyro-instruments.
  - l. pitot heat.
4. Notes any discrepancies and determines whether the aircraft is safe for instrument flight or requires maintenance.

**III. AREA OF OPERATION:  
AIR TRAFFIC CONTROL CLEARANCES AND PROCEDURES**

**NOTE** The ATC clearance may be an actual or simulated ATC clearance based upon the flight plan.

**A. TASK: AIR TRAFFIC CONTROL CLEARANCES**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; AIM.

**Objective** To determine that the applicant:

1. Exhibits adequate knowledge of the elements related to ATC clearances and pilot/controller responsibilities to include tower en route control and clearance void times.
2. Copies correctly, in a timely manner, the ATC clearance as issued.
3. Determines that it is possible to comply with ATC clearance.
4. Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.
5. Reads back correctly, in a timely manner, the ATC clearance in the sequence received.
6. Uses standard phraseology when reading back clearance.
7. Sets the appropriate communication and navigation frequencies and transponder codes in compliance with the ATC clearance.

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

REFERENCES: 14 CFR parts 61, 91; AC 61-27; DP's; En Route Low Altitude Charts; STAR's.

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

1. Exhibits adequate knowledge of the elements related to DP's, En Route Low Altitude Charts, STAR's, and related pilot/controller responsibilities.
2. Uses the current and appropriate navigation publications for the proposed flight.
3. Selects and uses the appropriate communication frequencies; selects and identifies the navigation aids associated with the proposed flight.
4. Performs the appropriate aircraft checklist items relative to the phase of flight.
5. Establishes two-way communications with the proper controlling agency, using proper phraseology.

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6. Complies, in a timely manner, with all ATC instructions and airspace restrictions.
7. Exhibits adequate knowledge of two-way radio communication failure procedures.
8. Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure, route, or clearance.
9. Maintains the applicable airspeed within 10 knots; headings within 10°; altitude within 100 feet (30 meters); and tracks a course, radial, or bearing.

### **C. TASK: HOLDING PROCEDURES**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; AIM.

**NOTE:** Any reference to DME will be disregarded if the aircraft is not so equipped.

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

1. Exhibits adequate knowledge of the elements related to holding procedures.
2. Changes to the holding airspeed appropriate for the altitude or aircraft when 3 minutes or less from, but prior to arriving at, the holding fix.
3. Explains and uses an entry procedure that ensures the aircraft remains within the holding pattern airspace for a standard, nonstandard, published, or nonpublished holding pattern.
4. Recognizes arrival at the holding fix and initiates prompt entry into the holding pattern.
5. Complies with ATC reporting requirements.
6. Uses the proper timing criteria, where applicable, as required by altitude or ATC instructions.
7. Complies with pattern leg lengths when a DME distance is specified.
8. Uses proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.
9. Maintains the airspeed within 10 knots; altitude within 100 feet (30 meters); headings within 10°; and tracks a selected course, radial, or bearing.

#### IV. AREA OF OPERATION: FLIGHT BY REFERENCE TO INSTRUMENTS

**NOTE:** The examiner shall require the performance of all TASKS. At least two of the TASKS, A through E as selected by the examiner, shall be performed without the use of the attitude and heading indicators. TASK F shall be performed using all available instruments; TASK G shall be performed without the use of the attitude indicator.

##### A. TASK: STRAIGHTANDLEVEL FLIGHT

REFERENCES: 14 CFR part 61; AC 61-27.

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

1. Exhibits adequate knowledge of the elements related to attitude instrument flying during straight-and-level flight.
2. Maintains straight-and-level flight in the aircraft configuration specified by the examiner.
3. Maintains the heading within 10°, altitude within 100 feet (30 meters), and airspeed within 10 knots.
4. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, power, and trim corrections.

##### B. TASK: CHANGE OF AIRSPEED

REFERENCES: 14 CFR part 61; AC 61-27.

**Objective** To determine that the applicant:

1. Exhibits adequate knowledge of the elements relating to attitude instrument flying during change of airspeeds in straight-and-level flight and in turns.
2. Establishes a proper power setting when changing airspeed.
3. Maintains the heading within 10°, angle of bank within 5° when turning, altitude within 100 feet (30 meters), and airspeed within 10 knots.
4. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, power, and trim corrections.

**C. TASK: CONSTANT AIRSPEED CLIMBS AND DESCENTS**

REFERENCES: 14 CFR part 61; AC 61-27.

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

1. Exhibits adequate knowledge of the elements relating to attitude instrument flying during constant airspeed climbs and descents.
2. Demonstrates climbs and descents at a constant airspeed between specific altitudes in straight or turning flight as specified by the examiner.
3. Enters constant airspeed climbs and descents from a specified altitude, airspeed, and heading.
4. Establishes the appropriate change of pitch and power to establish the desired climb and descent performance.
5. Maintains the airspeed within 10 knots, heading within 10° or, if in a turning maneuver, within 5° of the specified bank angle.
6. Performs the level-off within 100 feet (30 meters) of the specified altitude.
7. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, power, and trim corrections.

**D. TASK: RATE CLIMBS AND DESCENTS**

REFERENCES: 14 CFR part 61; AC 61-27.

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

1. Exhibits adequate knowledge of the elements relating to attitude instrument flying during rate climbs and descents.
2. Demonstrates climbs and descents at a constant rate between specific altitudes in straight or turning flight as specified by the examiner.
3. Enters rate climbs and descents from a specified altitude, airspeed, and heading.
4. Establishes the appropriate change of pitch, bank, and power to establish the specified rate of climb or descent.
5. Maintains the specified rate of climb and descent within 100 feet per minute, airspeed within 10 knots, heading within 10°, or if in a turning maneuver, within 5° of the specified bank angle.

6. Performs the level-off within 100 feet (30 meters) of the specified altitude.
7. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, power, and trim corrections.

**E. TASK: TIMED TURNS TO MAGNETIC COMPASS HEADINGS**

REFERENCES: 14 CFR part 61; AC 61-27.

**NOTE:** If the aircraft has a turn and slip indicator, the phrase “miniature aircraft of the turn coordinator” applies to the turn needle.

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

1. Exhibits adequate knowledge of elements and procedures relating to calibrating the miniature aircraft of the turn coordinator, the operating characteristics and errors of the magnetic compass, and the performance of timed turns to specified compass headings.
2. Establishes indicated standard rate turns, both right and left.
3. Applies the clock correctly to the calibration procedure.
4. Changes the miniature aircraft position, as necessary, to produce a standard rate turn.
5. Makes timed turns to specified compass headings.
6. Maintains the altitude within 100 feet (30 meters), airspeed within 10 knots, bank angle 5° of a standard or half-standard rate turn, and rolls out on specified headings within 10°.

**F. TASK: STEEP TURNS**

REFERENCES: 14 CFR part 61; AC 61-27.

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

1. Exhibits adequate knowledge of the factors relating to attitude instrument flying during steep turns.
2. Enters a turn using a bank of approximately 45° for an airplane and 30° for a helicopter.
3. Maintains the specified angle of bank for either 180° or 360° of turn, both left and right.

4. Maintains altitude within 100 feet (30 meters), airspeed within 10 knots, 5° of specified bank angle, and rolls out within 10° of the specified heading.
5. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, power, and trim corrections.

**G. TASK: RECOVERY FROM UNUSUAL FLIGHT ATTITUDES**

REFERENCES: 14 CFR part 61; AC 61-27.

**NOTE:** Any intervention by the examiner to prevent the aircraft from exceeding any operating limitations, or entering an unsafe flight condition, shall be disqualifying.

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

1. Exhibits adequate knowledge of the elements relating to attitude instrument flying during recovery from unusual flight attitudes (both nose-high and nose-low).
2. Uses proper instrument cross-check and interpretation, and applies the appropriate pitch, bank, and power corrections in the correct sequence to return the aircraft to a stabilized level flight attitude.

**V. AREA OF OPERATION:  
NAVIGATION SYSTEMS**

**TASK: INTERCEPTING AND TRACKING NAVIGATIONAL  
SYSTEMS AND DME ARCS**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; AIM.

**NOTE:** Any reference to DME arcs, ADF, or GPS shall be disregarded if the aircraft is not equipped with these specified navigational systems.

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

1. Exhibits adequate knowledge of the elements related to intercepting and tracking navigational systems and DME arcs.
2. Tunes and correctly identifies the navigation facility.
3. Sets and correctly orients the radial to be intercepted into the course selector or correctly identifies the radial on the RMI.
4. Intercepts the specified radial at a predetermined angle, inbound or outbound from a navigational facility.
5. Maintains the airspeed within 10 knots, altitude within 100 feet (30 meters), and selected headings within 5°.
6. Applies proper correction to maintain a radial, allowing no more than three-quarter-scale deflection of the CDI or within 10° in case of an RMI.
7. Determines the aircraft position relative to the navigational facility or from a waypoint in the case of GPS.
8. Intercepts a DME arc and maintains that arc within 1 nautical mile.
9. Recognizes navigational receiver or facility failure, and when required, reports the failure to ATC.

**VI. AREA OF OPERATION:  
INSTRUMENT APPROACH PROCEDURES**

**A. TASK: NONPRECISION INSTRUMENT APPROACH**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; IAP; AIM.

**NOTE:** Any reference to DME arcs, ADF, or GPS shall be disregarded if the aircraft is not equipped with the above specified navigational systems. If the aircraft is equipped with any of the above navigational systems, the examiner may ask the applicant to demonstrate those types of approaches. The examiner shall select two nonprecision approaches utilizing different approach systems.

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

1. Exhibits adequate knowledge of the elements related to an instrument approach procedure.
2. Selects and complies with the appropriate instrument approach procedure to be performed.
3. Establishes two-way communications with ATC, as appropriate, to the phase of flight or approach segment, and uses proper radio communication phraseology and technique.
4. Selects, tunes, identifies, and confirms the operational status of navigation equipment to be used for the approach procedure.
5. Complies with all clearances issued by ATC or the examiner.
6. Recognizes if heading indicator and/or attitude indicator is inaccurate or inoperative, advises controller, and proceeds with approach.
7. Advises ATC or examiner anytime the aircraft is unable to comply with a clearance.
8. Establishes the appropriate aircraft configuration and airspeed considering turbulence and wind shear, and completes the aircraft checklist items appropriate to the phase of the flight.
9. Maintains, prior to beginning the final approach segment, altitude within 100 feet (30 meters), heading within 10° and allows less than a full-scale deflection of the CDI or within 10° in the case of an RMI, and maintains airspeed within 10 knots.

10. Applies the necessary adjustments to the published MDA and visibility criteria for the aircraft approach category when required, such as—
  - a. FDC and Class I NOTAM's.
  - b. inoperative aircraft and ground navigation equipment.
  - c. inoperative visual aids associated with the landing environment.
  - d. National Weather Service (NWS) reporting factors and criteria.
11. Establishes a rate of descent and track that will ensure arrival at the MDA prior to reaching the MAP with the aircraft continuously in a position from which descent to a landing on the intended runway can be made at a normal rate using normal maneuvers.
12. Allows, while on the final approach segment, no more than a three-quarter-scale deflection of the CDI or within 10° in case of an RMI, and maintains airspeed within 10 knots.
13. Maintains the MDA, when reached, within +100 feet (30 meters), -0 feet to the MAP.
14. Executes the missed approach procedure when the required visual references for the intended runway are not distinctly visible and identifiable at the MAP.
15. Executes a normal landing from a straight-in or circling approach when instructed by the examiner.

## **B. TASK: PRECISION ILS INSTRUMENT APPROACH**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; IAP; AIM.

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

1. Exhibits adequate knowledge of the elements of an ILS instrument approach procedure.
2. Selects and complies with the appropriate ILS instrument approach procedure to be performed.
3. Establishes two-way communications with ATC, as appropriate to the phase of flight or approach segment, and uses proper radio communications phraseology and technique.
4. Selects, tunes, identifies, and confirms the operational status of ground and aircraft navigation equipment to be used for the approach procedure.
5. Complies with all clearances issued by ATC or the examiner.
6. Advises ATC or examiner anytime the aircraft is unable to comply with a clearance.

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7. Establishes the appropriate aircraft configuration and airspeed, considering turbulence and wind shear, and completes the aircraft checklist items appropriate to the phase of flight.
8. Maintains, prior to beginning the final approach segment, specified altitude within 100 feet (30 meters), heading or course within 10°, and airspeed within 10 knots.
9. Applies the necessary adjustments to the published DH and visibility criteria for the aircraft approach category when required, such as—
  - a. FDC and Class II NOTAM's.
  - b. inoperative aircraft and ground navigation equipment.
  - c. inoperative visual aids associated with the landing environment.
  - d. National Weather Service (NWS) reporting factors and criteria.
10. Establishes an initial rate of descent at the point where the electronic glide slope is intercepted, which approximates that required for the aircraft to follow the glide slope to DH.
11. Allows, while on the final approach segment, no more than three-quarter-scale deflection of either the localizer or glide slope indications, and maintains the specified airspeed within 10 knots.
12. Avoids descent below the DH before initiating a missed approach procedure or transitioning to a normal landing approach.
13. Initiates immediately the missed approach procedure when, at the DH, the required visual references for the intended runway are not distinctly visible and identifiable.
14. Transitions to a normal landing approach when the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.

**C. TASK: MISSED APPROACH**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; IAP; AIM.

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

1. Exhibits adequate knowledge of the elements related to missed approach procedures associated with standard instrument approaches.
2. Initiates the missed approach promptly by applying power, establishing a climb attitude, and reducing drag in accordance with the aircraft manufacturer's recommendations.
3. Reports to ATC beginning the missed approach procedure.
4. Complies with the published or alternate missed approach procedure.
5. Advises ATC or examiner anytime the aircraft is unable to comply with a clearance, restriction, or climb gradient.
6. Follows the recommended checklist items appropriate to the go-around procedure.
7. Requests, if appropriate, ATC clearance to the alternate airport, clearance limit, or as directed by the examiner.
8. Maintains the recommended airspeed within 10 knots; heading, course, or bearing within 10°; and altitude(s) within 100 feet (30 meters) during the missed approach procedure.

**D. TASK: CIRCLING APPROACH**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; IAP; AIM.

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

1. Exhibits adequate knowledge of the elements related to a circling approach procedure.
2. Selects and complies with the appropriate circling approach procedure considering turbulence and wind shear and considering the maneuvering capabilities of the aircraft.
3. Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC and the examiner.
4. Does not exceed the visibility criteria or descend below the appropriate circling altitude until in a position from which a descent to a normal landing can be made.

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5. Maneuvers the aircraft, after reaching the authorized MDA and maintains that altitude within +100 feet (30 meters), -0 feet and a flightpath that permits a normal landing on a runway at least 90° from the final approach course.

**E. TASK: LANDING FROM A STRAIGHT-IN OR CIRCLING APPROACH**

REFERENCES: 14 CFR parts 61, 91; AC 61-27; AIM.

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

1. Exhibits adequate knowledge of the elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors which affect a landing from a straight-in or a circling approach.
2. Transitions at the DH, MDA, or VDP to a visual flight condition, allowing for safe visual maneuvering and a normal landing.
3. Adheres to all ATC (or examiner) advisories, such as NOTAM's, wind shear, wake turbulence, runway surface, braking conditions, and other operational considerations.
4. Completes appropriate checklist items for the pre-landing and landing phase.
5. Maintains positive aircraft control throughout the complete landing maneuver.

**VII. AREA OF OPERATION:  
EMERGENCY OPERATIONS****A. TASK: LOSS OF COMMUNICATIONS**

REFERENCES: 14 CFR parts 61, 91; AIM.

**Objective.** To determine that the applicant exhibits adequate knowledge of the elements related to applicable loss of communication procedures to include:

1. Recognizing loss of communication.
2. Continuing to destination according to the flight plan.
3. When to deviate from the flight plan.
4. Timing for beginning an approach at destination.

**B. TASK: ONE ENGINE INOPERATIVE DURING  
STRAIGHT-AND-LEVEL FLIGHT AND TURNS  
(MULTIENGINE AIRPLANE)**

REFERENCES: 14 CFR part 61; AC 61-21, AC 61-27.

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

1. Exhibits adequate knowledge of the procedures used if engine failure occurs during straight-and-level flight and turns while on instruments.
2. Recognizes engine failure simulated by the examiner during straight-and-level flight and turns.
3. Sets all engine controls, reduces drag, and identifies and verifies the inoperative engine.
4. Establishes the best engine-inoperative airspeed and trims the aircraft.
5. Verifies the accomplishment of prescribed checklist procedures for securing the inoperative engine.
6. Establishes and maintains the recommended flight attitude, as necessary, for best performance during straight-and-level and turning flight.
7. Attempts to determine the reason for the engine failure.
8. Monitors all engine control functions and makes necessary adjustments.
9. Maintains the specified altitude within 100 feet (30 meters), (if within the aircraft's capability), airspeed within 10 knots, and the specified heading within 10°.

10. Assesses the aircraft's performance capability and decides an appropriate action to ensure a safe landing.
11. Avoids loss of aircraft control, or attempted flight contrary to the engine-inoperative operating limitations of the aircraft.

**C. TASK: ONE ENGINE INOPERATE—INSTRUMENT APPROACH(MULTIENGINE AIRPLANE)**

REFERENCES: 14 CFR part 61; AC 61-21, AC 61-27; IAP.

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

1. Exhibits adequate knowledge of the elements by explaining the procedures used during an instrument approach in a multiengine aircraft with one engine inoperative.
2. Recognizes promptly, engine failure simulated by the examiner.
3. Sets all engine controls, reduces drag, and identifies and verifies the inoperative engine.
4. Establishes the best engine-inoperative airspeed and trims the aircraft.
5. Verifies the accomplishment of prescribed checklist procedures for securing the inoperative engine.
6. Establishes and maintains the recommended flight attitude and configuration for the best performance for all maneuvering necessary for the instrument approach procedures.
7. Attempts to determine the reason for the engine failure.
8. Monitors all engine control functions and makes necessary adjustments.
9. Requests and receives an actual or a simulated ATC clearance for an instrument approach.
10. Follows the actual or a simulated ATC clearance for an instrument approach.
11. Establishes a rate of descent that will ensure arrival at the MDA prior to reaching the MAP with the aircraft continuously in a position from which descent to a landing on the intended runway can be made straight in or circling.
12. Maintains, where applicable, the specified altitude within 100 feet (30 meters), the airspeed within 10 knots if within the aircraft's capability, and the heading within 10°.
13. Sets the navigation and communication equipment used during the approach and uses the proper communications technique.
14. Avoids loss of aircraft control, or attempted flight contrary to the engine-inoperative operating limitations of the aircraft.

15. Complies with the published criteria for the aircraft approach category when circling.
16. Allows, while on final approach segment, no more than three-quarter-scale deflection of either the localizer or glide slope or GPS indications, or within 10° of the nonprecision final approach course.
17. Completes a safe landing.

**D. TASK: LOSS OF GYRO ATTITUDE AND/OR HEADING INDICATORS**

REFERENCES: 14 CFR part 61; AC 61-27; IAP.

**Note:** This approach shall count as one of the required nonprecision approaches.

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

1. Exhibits adequate knowledge of the elements relating to recognizing if attitude indicator and/or heading indicator is inaccurate or inoperative, and advises ATC or the examiner.
2. Advises ATC or examiner anytime the aircraft is unable to comply with a clearance.
3. Demonstrates a nonprecision instrument approach without gyro attitude and heading indicators using the objectives of the nonprecision approach TASK (AREA OF OPERATION VI, TASK A).

**VIII. AREA OF OPERATION:  
POSTFLIGHT PROCEDURES**

**TASK: CHECKING INSTRUMENTS AND EQUIPMENT**

REFERENCES: 14 CFR parts 61, 91.

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

1. Exhibits adequate knowledge of the elements relating to all instrument and navigation equipment for proper operation.
2. Notes all flight equipment for proper operation.
3. Notes all equipment and/or aircraft malfunctions and makes a written record of improper operation or failure of such equipment.

## **APPENDIX 1**

### **TASK VS. SIMULATION DEVICE CREDIT**

## Appendix 1—Levels of Simulation Devices

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### 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 simulator is used for the practical test, the instrument approach procedures conducted in that FTD or simulator are limited to one precision and one nonprecision approach procedure.
3. Postflight procedures means, closing flight plans, checking for discrepancies and malfunctions, and noting them on a log or maintenance form.



