The Pilot's Manual

Flight Instructor Instrument Syllabus

A Flight & Ground Training Course for Flight Instructor Instrument (CFII) Certification based on *The Pilot's Manual: Instrument Flying* textbook.

Meets Part 61 and 141 Requirements

ASA-PM-S-CFII-PD

The Pilot's Manual

Flight Instructor Instrument Syllabus

A Flight & Ground Training Course for Flight Instructor Instrument (CFII) Certification based on *The Pilot's Manual: Instrument Flying* textbook.

Meets Part 61 and 141 Requirements

Aviation Supplies & Academics, Inc.
Newcastle, Washington

7005 132nd Place SE, Newcastle, Washington 98059-3153

Visit the ASA website often, as any updates due to FAA regulatory and procedural changes will be posted there: **www.asa2fly.com**

ASA-PM-S-CFII-PD

Contents

Appendix:

About This Syllabus

Course Objective

The objective of this syllabus is for the applicant to acquire the necessary aeronautical knowledge and flight proficiency to meet the requirements for an added Flight Instructor Instrument (CFII) certificate with an Airplane category and Single-Engine Land class rating as well as an Instrument Ground Instructor (IGI) certificate. This syllabus can also be tailored to meet the requirements for an initial Flight Instructor Instrument Certificate.

Prerequisites

The applicant must be able to read speak, write and understand the English language, meet the physical standards for a third-class medical certificate, be at least 18 years of age, and must hold either a Commercial or Airline Transport Pilot (ATP) certificate with an Instrument Rating for Airplane Single-Engine Land.

Flight Instructor Instrument Certification Course

The Flight Instructor Instrument (CFII) certificate is made up of two requirements: **aeronautical knowledge** and **flight training**. This syllabus is written to satisfy the requirements of both 14 CFR Parts 141 and 61. The syllabus consists of 3 stages containing multiple modules; each stage is designed to meet a particular requirement of training as outlined in Parts 141 and 61. In Stages 1 and 2 the applicant is required to present ground training or preflight training lesson plans.

To assist in the development of these lesson plans references are given for each module that directly corresponds to that modules content. It is recommended that students use all available resources, including those above and beyond what is defined in the design of a lesson plan. Each module assignment should be completed prior to moving on to the next module.

Stage 1 consists of ground training on the aeronautical knowledge required for an added instrument rating to an existing flight instructor certificate. Stage 2 consists of both preflight and flight proficiency training required for the added instrument rating to an existing instructor certificate. Stage 3 serves as an end of course exam and is used to determine if the student has obtained the required training to meet the practical test standards required of an instrument flight instructor. This stage is divided into two modules and can be completed as one at the discretion of the instructor.

To use this syllabus for an initial flight instructor certificate it will be required that the applicant also completes Stage 1 in the ASA Flight Instructor Syllabus (ASA-PM-S-CFI-PD) to meet the ground training requirements on Fundamentals of Instructing (FOI). It is recommended that this training be completed prior to beginning Stage 1 of this syllabus.

Testing Procedures

Stages 1 and 2 include an end of stage exam reviewing the aeronautical knowledge and flight proficiency that was covered in that stage. Applicants are required to score 80% or higher and exams should be reconciled to 100%. Prior to moving on to the next stage the applicant will satisfactorily complete the FAA Knowledge Exam that corresponds to that stage as outlined in the stages completion standards. The FAA requires a minimum score of 70% on all knowledge exams.

Stage 3 consists of a practice practical test that is to be conducted by the Chief or Assistant Chief Flight Instructor, designated Check Instructor, or FAA designated pilot examiner. The applicant must demonstrate the Practical Test Standards for Flight Instructor Instrument certificate for successful completion of this stage.

Minimum Requirements

To meet the requirements of 14 CFR Part 141, the applicant must complete a minimum 15 hours of aeronautical knowledge training and 15 hours of flight training. A breakdown of these requirements can be found in the course compliance table. For the purpose of this syllabus Ground Instruction and Preflight Lesson Instruction count towards the 15 hour minimum. Module hour requirements can be used as a guideline as long as minimum stage totals are met. The applicant should feel comfortable performing each task in all previous modules before progressing to the next stage.

Instruction in a flight simulator that meets the requirements of §141.41(a) may be credited for a maximum of 10 percent of the total flight training hour requirements. Instruction in a flight simulator that meets the requirements of §141.41(b) may be credited for a maximum of 5 percent of the total flight training hour requirements.

Required Materials (use most current edition of each)

The Pilots Manual: Instrument Flying (ASA-PM-3)
FAA *Instrument Flying Handbook* (ASA-8083-15)
FAA *Practical Test Standards: Flight Instructor Instrument* (ASA-8081-9)
ASA *FAR/AIM* (ASA-FR-AM-BK, updated annually)
Advisory Circular (AC) 61.65

Recommended Materials

The Flight Instructor's Manual, by William K. Kershner (ASA-FM-CFI)
Flight Instructor Oral Exam Guide, by Michael Hayes (ASA-OEG-CFI)
Instrument Oral Exam Guide, by Michael Hayes (ASA-OEG-I)
Lesson Plans to Train Like You Fly by Arlynn McMahon (ASA-LESSON-PLANS)
FITS Flight Instructor Training Module V1.1 (FAA)
Instrument Test Prep (ASA-TP-I, updated annually)
FAA *Instrument Procedures Handbook* (ASA-8083-16)

ASA Flight Instructor Test Prep or Prepware Software is recommended to enhance the program. Test preps will ensure the applicant is prepared for the FAA Knowledge Exams that correspond to this course of training. It is recommended that the applicant enrolled in this course use all available resources in the design and application of lesson plans.

If you have any comments or questions on how to best use this syllabus, please call ASA at 1-800-ASA-2-FLY. We will be happy to provide suggestions on how to tailor this syllabus to specifically meet your training needs. Note to Instructors: Answers to stage exams are available upon request and with confirmation of instructor status; email cfi@asa2fly.com, or fax your request on letterhead to 1-425-235-0128.

CFII Minimum Course Hours

For Part 141, Appendix G Compliance

These course times are for student/instructor guidance only. They are a suggested time schedule which will ensure minimum flight and ground training compliance with Part 141.

Note: Ground Instruction should include classroom discussion, and pre- and post-flight briefings.

Page		Date	Ground Instruction		Preflight Lesson Instruction		Flight Instruction		Exam	Score
1	**Stage 1**									
2	Module 1		1.0							
3	Module 2		1.0							
4	Module 3		1.0							
5	Module 4		1.0							
6	Module 5		1.0							
7	Module 6		1.0							
8	Module 7		1.0							
9	Module 8		1.0							
10	Module 9		1.0						2.0	
	STAGE TOTALS		**9.0**						**2.0**	
11	**Stage 2**									
12	Module 10				.5		1.5			
14	Module 11				.5		1.5			
16	Module 12				.5		1.5			
17	Module 13				.5		1.5			
18	Module 14				.5		1.5			
19	Module 15				.5		1.5			
20	Module 16				0.5		1.5			
21	Module 17				0.5		1.5			
22	Module 18				1.0		2.0		2.0	
	STAGE TOTALS				**5.0**		**14.0**		**2.0**	
24	**Stage 3**									
25	Module 19		2.0							
26	Module 20				1.0					
	STAGE TOTALS		**2.0**		**1.0**					
	COURSE TOTAL		**11.0**		**6.0**		**15.0**		**4.0**	
FAA Instrument Ground Instructor Knowledge Exam					Date/Score:					
FAA Instrument Flight Instructor Airplane Knowledge Exam					Date/Score:					

Enrollment Certificate

This is to certify that

_____

Student Name

is enrolled in the Federal Aviation Administration approved **Instrument Flight Instructor Certification Course**, conducted by

_____

School and Certificate Number

_____ _____

Chief Instructor *Date of Enrollment*

Graduation Certificate

This is to certify that

_____

Pilot Name and Number

has satisfactorily completed each required stage of the approved course of training including the tests for those stages, and has received _____ hours of cross-country training.

_____ has graduated from the Federal Aviation Administration approved **Instrument Flight Instructor Certification Course** conducted by

_____

School and Certificate Number

_____ _____

Chief Instructor *Date of Graduation*

Stage 1
Aeronautical Knowledge

Objective:

In Stage 1, the applicant will gain proficiency in the practical application of aviation ground training. The applicant will apply the fundamentals of instructing principles through the proper planning, presentation, and delivery of lesson plans. Applicants will further attain the aeronautical knowledge required to instruct instrument students. At the completion of stage one the applicant will have the knowledge needed to take the FAA Instrument Ground Instructor (IGI) Knowledge Exam.

Ground Training: Minimum 9 Hours

- Logbook entries related to instrument instruction
- Regulations and publications
- Flight instruments
- Instrument cockpit check
- Navigation equipment
- Weather information
- Air traffic control clearances
- Compliance with departure, enroute, and arrival procedures and clearances
- Cross-country flight planning

Completion Standards:

The applicant will have successfully completed the objective of each module in Stage 1. A minimum passing score of 80% is required on the Instrument Ground Instructor end of stage exam and all deficient areas will be corrected to 100%. Prior to completing stage one the applicant must pass the FAA Instrument Ground Instructor (IGI) Knowledge Exam.

Assignment:

Construct lesson plan for Module 1

Stage 1/Module 1
Logbook Entries Related to Instrument Instruction

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
Applicant will be introduced to the flight instructor instrument ratting. The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on logbook entries related to instrument instruction.

References:
AC 61.65
FAR/AIM

Content:
- Course overview
- Role of the instrument instructor including privileges and limitations
- Logbook entries or training records for instrument flight/instrument flight instruction or ground instruction given
- Preparing a recommendation for an instrument rating practical test, including appropriate logbook entry
- Required endorsement of a pilot logbook for satisfactory completion of an instrument proficiency check
- Required flight instructor records

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 1 and been found competent to instruct on logbook entries related to instrument instruction as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 2

Stage 1/Module 2
Regulations and Publications

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on regulations and publications related to instrument operations.

References:
Instrument Flying, Chapter 24
FAR/AIM

Content:
- Regulations important to instrument flight
  - 14 CFR Parts 61, 71, 91, 95, and 97
  - NTSB 830
- Publications important to instrument flight
  - FAA Instrument Flying Handbook (FAA-H-8083-15)
  - Aeronautical Information Manual (AIM)
  - Practical Test Standards
  - Airport Facility Directory
  - Standard Instrument Departures/Terminal Arrivals
  - Enroute Charts
  - Standard Instrument Approach Procedure Charts

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 2 and been found competent to instruct on regulations and publications related to instrument operations as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 3

Stage 1/Module 3
Flight Instruments

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on aircraft flight instruments.

References:
Instrument Flying, Chapter 3
Instrument Flying Handbook, Chapter 5

Content:
- Pitot-static systems
- Attitude indicator
- Heading indicator
- HSI/RMI
- Magnetic compass
- Turn-and-slip indicator/turn coordinator
- Electrical system
- Vacuum system
- Electronic engine instrument display
- Primary flight display (PFD)
- Anti-ice/deicing and weather detection equipment
    - Airframe
    - Propeller
    - Air intake
    - Fuel system
    - Pitot-static system
    - Radar/lightening detection system
    - Other in-flight weather systems

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 3 and been found competent to instruct on aircraft flight instruments as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 4

Stage 1/Module 4
Instrument Cockpit Check

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on instrument cockpit checks.

References:
Instrument Flying, Chapter 3
Instrument Flying Handbook, Chapter 5

Content:
- Communications equipment
- Navigation equipment
- Magnetic compass
- Heading indicator, HSI, RMI
- Attitude indicator
- Altimeter
- Turn-and-slip indicator/turn coordinator
- Vertical speed indicator
- Airspeed indicator
- Outside air temperature
- Clock
- Pitot heat
- Electronic flight instrument display/warning/avoidance system
- Terrain awareness/warning/alert system
- Flight management system (FMS)
- Autopilot

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 4 and been found competent to instruct on aircraft flight instrument checks as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 5

Stage 1/Module 5
Navigation Equipment

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on navigation equipment.

References:
Instrument Flying, Chapters 10 through 16
Instrument Flying Handbook, Chapter 9

Content:
- Radar
- Transponder/altitude encoding
- Automatic direction finder (ADF)
- VHF omnirange (VOR)
- Instrument landing system (ILS)
- Distance measuring equipment (DME)
- Global positioning system (GPS)
- Electronic flight instrument display
- Multi-function display (MFD)
- Flight management systems (FMS)
- Autopilot

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 5 and been found competent to instruct on navigation equipment as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 6

Stage1/Module 6
Weather Information

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on weather information.

References:
Instrument Flying, Chapters 17 through 23
Instrument Flying Handbook, Chapters 10 and 11

Content:
- Sources of weather
  - AWOS, ASOS, and ATIS reports
  - PATWAS and TIBS
- Weather reports and charts
  - METAR, TAF, FA, Radar report
  - Inflight weather advisories
  - Surface analysis and weather depiction charts
  - Significant weather prognostic charts
  - Winds and temperature aloft charts
  - Pilot weather reports (PIREPS)
  - Freezing level charts
  - Severe weather outlook charts
  - SIGMETS and AIRMETS

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 6 and been found competent to instruct on weather information as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 7

Stage 1/Module 7
Air Traffic Control Clearances

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on air traffic control clearances.

References:
Instrument Flying, Chapter 25
Instrument Flying Handbook, Chapters 2 and 10

Content:
- Pilot and controller responsibilities to include tower, enroute control, and clearance void times
- Correct and timely copying of an ATC clearance
- Ability to comply with the clearance
- Correct and timely read-back of an ATC clearance, using standard phraseology
- Correct interpretation of an ATC clearance and, when necessary, request for clarification, verification, or change
- Setting of communication and navigation frequencies in compliance with an ATC clearance

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 7 and been found competent to instruct on air traffic control clearances as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 8

Stage 1/Module 8
Compliance with Departure, Enroute, and Arrival Procedures and Clearances

Minimum 141 Requirements: 1.0 hour ground instruction

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on compliance with ATC procedures and clearances.

References:
Instrument Flying, Chapters 25, 26, and 27
Instrument Flying Handbook, Chapter 10

Content:
- Selection and use of current and appropriate navigation publications
- Pilot and controller responsibilities with regard to DPs, Enroute Low and High Altitude Charts, and STARs
- Selection and use of appropriate communications frequencies
- Selection and identification of the navigation aids
- Accomplishment of the appropriate checklist items
- Pilot's responsibility for compliance with vectors and also altitude, airspeed, climb, descent, and airspace restrictions
- Pilot's responsibility for the interception of courses, radials, and bearings appropriate to the procedure, route, or clearance
- Procedures to be used in the event of two-way communications failure
- The uses of the multifunction display and other graphical navigational displays, if installed, to monitor position track, wind drift, and other parameters to maintain situational awareness and desired flight path

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 8 and been found competent to instruct on ATC procedures and clearances as determined by the training provider or individual instructor.

Assignment:
Construct lesson plan for Module 9

Stage 1/Module 9
Cross-Country Flight Planning

Minimum 141 Requirements: 1.0 hour ground instruction + Stage Exam

Objective:
The applicant will demonstrate the instructional and aeronautical knowledge required to teach the below content elements on cross-country flight planning and aeromedical factors.

References:
Instrument Flying, Chapter 25
Instrument Flying Handbook, Chapters 1 and 10

Content:
- Regulatory requirements for instrument flight within various types of airspace
- Computation of estimated time en route and total fuel requirement for an IFR cross-country flight
- Selection and correct interpretation of the current and applicable enroute charts, RNAV, DPs, STARs, and standard instrument approach procedure charts (IAP)
- Procurement and interpretation of the applicable NOTAM information
- Complete and file an IFR flight plan that accurately reflects the conditions of the proposed flight (do not have to file with ATC)
- Demonstrate adequate knowledge of GPS and RAIM capability, when aircraft is so equipped
- Demonstrate the ability to recognize wing contamination due to airframe icing
- Demonstrate adequate knowledge of the adverse effects of airframe icing during landing phases of flight and corrective actions: pre-takeoff, takeoff, and cruise
- Demonstrate familiarity with any icing procedures and/or information published by the manufacturer that is specific to the aircraft used on the practical test
- Aeromedical factors relevant to cross-country flight planning
    - IMSAFE

Completion Standards:
The lesson is complete when the applicant has constructed a lesson plan for Module 9 and been found competent to instruct on cross-country flight planning and aeromedical factors as determined by the training provider or individual instructor. The applicant must also pass the Instrument Ground Instructor stage check exam with a minimum score of 80%, all deficient answers should be reconciled to 100%.

Assignment:
Prepare for your FAA Instrument Ground Instructor (IGI) Knowledge Exam. The test will contain 50 questions and requires a minimum score of 70% for passing.

Stage 2
Flight Proficiency

Objective:

In Stage 2, applicants will gain proficiency in demonstrating and simultaneously performing the required flight operations for instrument pilot certification. Applicants will learn to identify and analyze common errors associated with these flight operations and apply the corrective action. Applicants will attain the flight proficiency and risk management required to instruct instrument rating students. At the completion of Stage 2, the applicant will have the knowledge needed to take the FAA Flight Instructor Instrument (CFII) Airplane Knowledge Exam.

Ground Training: 5 hours minimum—Flight Training: 14 hours minimum

- Flight by Reference to Instruments, Part I
- Flight by Reference to Instruments, Part II
- Navigation, Intercepting, Tacking, and Holding
- Non-Precision Instrument Approach (NPA)
- Precision Instrument Approach (PA)
- Missed, Circling, and Straight-In Approaches
- Loss of Communications
- Emergency Procedures
- Review Flight

Completion Standards:

The applicant will have successfully completed the objective of each module in Stage 2. The applicant at minimum must demonstrate any maneuvers to instrument pilot test standards from the right seat of the aircraft. A minimum passing score of 80% is required on the Flight Instructor Instrument Airplane end of stage exam and all deficient answers will be corrected to 100%. Prior to completing this stage the applicant must pass the FAA Flight Instructor Instrument Airplane Knowledge Exam.

Assignment:

Construct preflight lesson plans for Module 10

Stage 2/Module 10
Flight by Reference to Instruments, Part I

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain flight by reference to instrument from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying, Chapters 1 through 9
Instrument Flying Handbook, Chapters 6 and 7

Content:

- Preflight Lesson
  - Straight-and-level flight
  - Turns
  - Steep turns
  - Change of airspeed in straight-and-level flight
  - Constant airspeed climbs and descent
  - Constant rate climbs and descent
- Flight
  - Preflight
  - Instrument cockpit check
  - Use of checklists
  - Positive exchange of flight controls
  - Announce intentions on CTAF, clearing turns, collision avoidance
  - Straight-and-level flight
    - Changes of airspeed
    - Full and partial panel
  - Turns
    - Full and partial panel
  - Steep turns
    - Full and partial panel
  - Climbs and descents
    - Constant airspeed
    - Constant rate
    - Full and partial panel
  - Instrument scan
  - Postflight

Completion Standards:

This module is complete when the applicant has—

- Presented preflight lesson plans for Module 10.
- Demonstrated positive aircraft control from the right seat.
- Competently explained and demonstrated straight-and-level flight, turns, steep turns, change of airspeed in straight-and-level flight, constant airspeed climbs and descents, constant rate climbs and descents from an instructional standpoint.

Assignment:

Construct preflight lesson plans for Module 11

Stage 2/Module 11
Flight by Reference to Instruments, Part II

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain flight by reference to instruments and postflight procedures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying, Chapters 1 through 9
Instrument Flying Handbook, Chapters 6 and 7

Content:

- Preflight Lesson
  - Timed turns to a magnetic compass heading
  - Recovery from unusual flight attitudes
  - Checking instruments and equipment
- Flight
  - Preflight
  - Instrument cockpit check
  - Use of checklists
  - Positive exchange of flight controls
  - Announce intentions on CTAF, clearing turns, collision avoidance
  - Standard rate turns
  - Timed turns to a magnetic compass headings
    - Full and Partial Panel
  - Unusual flight attitudes
    - Nose-high
    - Nose-low
  - Straight-and-level flight
  - Climbs, turns, descents
  - Instrument scan
  - Partial Panel
  - Postflight procedures
    - Checking instruments and equipment
    - Written record of improper operation (SQUAWKS)
  - Postflight

Completion Standards:

This module is complete when the applicant has—

- Presented preflight lesson plans for Module 11.
- Demonstrated positive aircraft control from the right seat.
- Competently explained and demonstrated timed turns to a magnetic compass heading, recovery from unusual flight attitudes and Postflight procedures from an instructional standpoint.

Assignment:

Construct preflight lesson plans for Module 12

Stage 2/Module 12
Navigation, Intercepting, Tacking, and Holding

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:
The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain intercepting and tracking navigational systems, DME arcs, and holding procedures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:
Instrument Flying, Chapter 28
Instrument Flying Handbook, Chapters 9 and 10

Content:
- Preflight lesson
  - Intercepting and tracking navigational systems and DME arcs
  - Holding procedures
- Flight
  - Preflight
  - VOR/VOT accuracy check
  - VOR navigation
    - Intercepting and tracking
  - GPS navigation
    - Intercepting and tracking
  - DME arcs
  - Localizer intercepting and tracking
  - Determining position
  - Holding instructions
  - Holding procedures
    - Direct, teardrop, parallel
    - Standard/nonstandard
    - Wind correction
  - Postflight

Completion Standards:
This module is complete when the applicant has—

- Presented preflight lesson plans for Module 12.
- Demonstrated positive aircraft control from the right seat.
- Competently explained and demonstrated intercepting and tracking navigational systems, DME arc's, and holding procedures from an instructional standpoint.

Assignment:
Construct preflight lesson plans for Module 13

Stage 2/Module 13
Non-Precision Instrument Approach (NPA)

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain non-precision instrument approach procedures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying, Chapter 29
Instrument Flying Handbook, Chapter 10

Content:

- Preflight lesson
  - Non-precision instrument approach procedures
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - Non-precision instrument approaches (3 at instructor's discretion)
    _____App. type/location
    _____App. type/location
    _____App. type/location
  - Postflight

Completion Standards:

This module is complete when the applicant has—

- Presented preflight lesson plans for Module 13.
- Demonstrated positive aircraft control from the right seat and appropriate compliance with ATC procedures and clearances.
- Competently explained and demonstrated non-precision instrument approach procedures from an instructional standpoint.

Assignment:

Construct preflight lesson plans for Module 14

Stage 2/Module 14
Precision Instrument Approach (PA)

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain precision instrument approach procedures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying, Chapter 29
Instrument Flying Handbook, Chapter 10

Content:

- Preflight lesson
  - Precision instrument approach procedures
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - Precision instrument approaches (3 at instructor's discretion)
    _____App. type/location
    _____App. type/location
    _____App. type/location
  - Postflight

Completion Standards:

This module is complete when the applicant has—

- Presented preflight lesson plans for Module 14.
- Demonstrated positive aircraft control from the right seat and appropriate compliance with ATC procedures and clearances.
- Competently explained and demonstrated precision instrument approach procedures from an instructional standpoint.

Assignment:

Construct preflight lesson plans for Module 15

Stage 2/Module 15
Missed, Circling, and Straight-In Approaches

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain missed, circling, and straight-in approach procedures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying, Chapter 29
Instrument Flying Handbook, Chapter 10

Content:

- Preflight lesson
  - Missed approach
  - Circling approach
  - Landing from a straight-in-approach
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - NPA/PA to a missed approach (1 at instructor's discretion)
    _____App. type/location
  - NPA/PA to a circling approach (1 at instructor's discretion)
    _____App. type/location
  - NPA/PA landing from a straight-in approach (1 at instructor's discretion)
    _____App. type/location
  - Postflight

Completion Standards:

This module is complete when the applicant has—

- Presented preflight lesson plans for Module 15.
- Demonstrated positive aircraft control from the right seat and appropriate compliance with ATC procedures and clearances.
- Competently explained and demonstrated missed approach, circling approach, and landing from a straight in approach procedures from an instructional standpoint.

Assignment:

Construct preflight lesson plans for Module 16

Stage 2/Module 16
Loss of Communications

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:
The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain loss of communications from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:
AIM ¶6-4-1

Content:
- Preflight lesson
  - Loss of communications
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - Loss of radio communications
    - Recognition of a malfunction
    - Procedures; route, altitude, time, descent
  - NPA/PA (2 at instructor's discretion)
    _____App. type/location
    _____App. type/location
  - Holding procedures
  - DME arcs
  - Postflight

Completion Standards:
This module is complete when the applicant has—

- The applicant has presented preflight lesson plans for Module 16.
- Demonstrated positive aircraft control from the right seat and appropriate compliance with ATC procedures and clearances.
- Competently explained and demonstrated loss of radio communications from an instructional standpoint.

Assignment:
Construct preflight lesson plans for module 17

Stage2/Module 17
Emergency Procedures

Minimum 141 Requirements: 0.5 hour ground instruction + 1.5 hours dual flight instruction

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain approach with loss of primary flight instrument indicators and engine failures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

Instrument Flying Handbook, Chapter 11

Content:

- Preflight lesson
  - Approach with loss of primary flight instrument indicators
  - Engine failure during straight-and-level flight and turns
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - Vacuum system failure
  - Pitot-static system failure
  - Electrical system failure
  - Notify ATC of instrument failures
  - NPA/PA partial panel (3 at instructor's discretion)
    _____App. type/location
    _____App. type/location
    _____App. type/location
  - Missed approach
  - Circling approach
  - Engine failures
  - Postflight

Completion Standards

This module is complete when the applicant has—

- The applicant has presented preflight lesson plans for Module 17.
- Demonstrated positive aircraft control from the right seat and appropriate compliance with ATC procedures and clearances.
- Competently explained and demonstrated approach with loss of primary flight instrument indicators and engine failure during straight-and-level flight and turns from an instructional standpoint.

Assignment:

Review Modules 10 through 16

Stage 2/Module 18
Review Flight

Minimum 141 Requirements: 1.0 hour ground instruction + 2.0 hours dual flight instruction + Stage Exam

Objective:

The applicant will—

1. Gain proficiency in the practical instruction of the knowledge and common errors related to each of the below elements for the preflight lesson.
2. Become familiar with instrument flight operations and visual perspectives from the right seat. Demonstrate and simultaneously explain approach with loss of primary flight instrument indicators and engine failures from an instructional standpoint. Apply the appropriate corrective action and response to simulated errors.

References:

FAA-S-8081-9

Content:

- Preflight Lesson
  - Lesson on a maneuver to be performed in-flight
  - PTS Special Emphasis Areas
- Flight
  - Preflight
  - File an IFR flight plan
  - Radio communications
  - Comply with ATC clearances
  - Flight by reference to instruments
  - Steep turns
  - Unusual attitudes
  - Intercepting and tracking navigational systems
  - DME Arcs
  - Holding procedures
  - Full and partial panel operations
  - NPA/PA (3 at instructor's discretion)
    _____App. type/location
    _____App. type/location
    _____App. type/location
  - Missed approach
  - Circling approach
  - Landing from a straight in approach
  - Loss of communications
  - Instrument failures
    - Vacuum system, pitot-static, electrical
  - Engine failures
  - Postflight

Completion Standards

This module is complete when the applicant has—

- Presented a preflight lesson plan for those lessons chosen by the instructor recognizing the special emphasis areas outlined in the Flight Instructor Instrument PTS.
- Effectively demonstrated procedures and maneuvers to the standards outlined in Flight Instructor Instrument PTS.
- Competency in explaining and teaching the instrument procedures and maneuvers outlined in this module.
- The applicant must also pass the Flight Instructor Instrument Airplane stage check exam with a minimum score of 80%, all deficient answers should be reconciled to 100%.

Assignment:

Prepare for your Flight Instructor Instrument Airplane FAA Knowledge Exam. The test will contain 50 questions and requires a minimum score of 70% for passing.

Stage 3
End-of-Course Check

Objective:

In Stage 3, it will be determined if the applicant meets the required Practical Test Standards to apply for the Flight Instructor Instrument Certificate. This stage should be completed by the chief or assistant chief flight instructor or a designated check instructor. Upon successful completion the applicant will receive all required endorsements to take the practical test.

Ground Training: 3 hours minimum—Flight Training: 1 hour

- End-of-Course Ground
- End-of-Course Flight

Completion Standards:

The applicant must meet all requirements as outlined in the Flight Instructor Instrument Practical Test Standards. Must also meet the requirements as outlined in 14 CFR Part 141 Appendix G or 14 CFR Part 61 Subpart H for the rating in which they apply.

Stage 3/Module 18
End-of-Course Ground

Minimum 141 Requirements: 2.0 hour ground instruction

Objective:

Determine that the applicant meets the instructional and practical knowledge of the Flight Instructor Instrument PTS to teach instrument students.

Content:

- Fundamentals of instructing
  - The learning process
  - Human behavior and effective communication
  - The teaching process
  - Teaching methods
  - Critique and evaluation
  - Flight instructor characteristics and responsibilities
  - Planning instructional activity
- Technical subject areas
  - Aircraft flight instruments and navigation equipment
  - Aeromedical factors
  - Regulations and publications related to IFR operations
  - Logbook entries related to instrument instruction
- Preflight preparation
  - Weather information
  - Cross-country flight planning
  - Instrument cockpit check
- Air traffic control clearances and procedures
  - Air traffic control clearances
  - Compliance with departure, enroute, and arrival procedures and clearances

Completion Standards:

This module is complete when the applicant has demonstrated—

- Knowledge of the fundamentals of instructing.
- Knowledge of the technical subject areas.
- Knowledge of the flight instructor's responsibilities concerning the pilot certification process.
- Knowledge of the flight instructor's responsibilities concerning logbook entries and pilot certificate endorsements.

Stage 3/Module 19
End-of-Course Flight

Minimum 141 Requirements: 1.0 hour ground instruction + 1.0 hours dual flight instruction

Objective:

Determine that the applicant meets the flight proficiency and instructional knowledge of the Flight Instructor Instrument Practical Test Standards to teach instrument students.

Content:

- Preflight lesson on a maneuver to be performed in-flight
  - Maneuver lesson
- Flight by reference to instruments
  - Straight-and-level flight
  - Turns
  - Change of airspeed in straight-and-level and turning flight
  - Constant airspeed climbs and descent
  - Timed turns to a magnetic compass headings
  - Steep turns
  - Recovery from unusual flight attitudes
- Navigation Systems
  - Intercepting and tracking navigational systems and DME arcs
  - Holding procedures
- Instrument approach procedures
  - Non-precision instrument approach
  - Precision instrument approach
  - Missed approach
  - Circling approach
  - Landing from a straight-in approach
- Emergency operations
  - Loss of communications
  - Loss of gyro attitude and heading indicators
- Postflight procedures
  - Checking instruments and equipment

Completion Standards:

This module is complete when the applicant has demonstrated—

- Competence in performing the procedures and maneuvers selected by the examiner to the instrument instructor pilot skill level while giving effective instruction.
- Competence in teaching the procedures and maneuvers selected by the examiner.
- Competence in describing, recognizing, analyzing, and correcting common errors simulated by the examiner.
- Knowledge of the development and effective use of a course of training, a syllabus, and a lesson plan, including scenario-based training and collaborative assessment.

Flight Instructor Instrument Endorsements

Instructor Note: Follow the format below when signing-off the endorsement for the applicant (from AC 61-65).

Fundamentals of instructing knowledge test: §§ 61.183(d) and 61.185(a)(1).

I certify that _____ (First name, MI, Last Name) has received the required fundamentals of instruction training of § 61.185(a)(1).

Sign/Date_____ Name_____

Certificate # / Expiration _____

Flight instructor certificate with instrument—(category/class) rating/practical test: section 61.183(g) and section 61.187(a) and (b)(7).

I certify that_____ (First name, MI, Last name) has received the required CFII training of section 61.187(b)(7). I have determined he/she is prepared for the CFII—airplane practical test.

Sign/Date_____ Name_____

Certificate # / Expiration _____

U.S. Department
of Transportation
Federal Aviation Administration

FAA Form 8710-1, Airman Certificate and/or Rating Application Supplemental Information and Instructions

Paperwork Reduction Act Statement

The information collected on this form is necessary to determine applicant eligibility for airman ratings. We estimate it will take 30 minutes to complete this form. The information collected is required to obtain a benefit and becomes part of the Privacy Act system of records DOT/FAA 847, Aviation Records on Individuals. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current valid OMB control number. The OMB control number associated with this collection is 2120-0021. You may direct comments concerning the accuracy of this burden and suggestions for reducing the burden to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, ASP-110.

See attached Privacy Act Information and Pilot's Bill of Rights Written Notification of Investigation

Detach these supplemental information instruction parts before submitting the attached form. Instructions for completing this form (FAA 8710-1 form) are attached. If an electronic form is not printed on a duplex printer, the applicant's name, date of birth, and certificate number (if applicable) must be furnished on the reverse side of the application. This information is required for identification purposes. The applicant's social security number, telephone number, and e-mail address are optional.

Tear off this cover before submitting form

AIRMAN CERTIFICATE AND/OR RATING APPLICATION

PRIVACY ACT STATEMENT: This statement is provided pursuant to 5 U.S.C. § 552(a):

The authority for collecting this information is contained in 49 U.S.C. §§ 40113, 44702, 44703, 44709 and 14 CFR Part 61. The principal purpose for which the information is intended to be used is to identify and evaluate your qualifications and eligibility for the issuance of an airman certificate and/or rating. Submission of the data is mandatory, except for the applicant's social security number, telephone number, and email address which are optional. Failure to provide all required information will result in the FAA being unable to issue you a certificate and/or rating. The information collected on this form will be included in a Privacy Act System of Records known as DOT/FAA 847, titled "Aviation Records on Individuals" and will be subject to the routine uses published in the System of Records Notice for DOT/FAA 847 (see www.dot.gov/privacy/privacyactnotices), including:

(a) Providing basic airmen certification and qualification information to the public upon request. Examples of basic information include:
- The type of certificate(s) and/or rating(s) held, limitations, date of issuance and certificate number;
- The status of the airman's certificate (i.e., whether it has been amended, modified, suspended or revoked for any reason);
- The airman's home address, unless requested by the airman to be withheld from public disclosure per 49 U.S.C. 44703(c);
- Information relating to an airman's physical status or condition used to determine statistically the validity of FAA medical standards, the date, class, and restrictions of the latest physical;
- Information relating to an individual's eligibility for medical certification, requests for exemption from medical requirements, and requests for review of medical certificate denials.

(b) Using contact information to inform airmen of meetings and seminars conducted by the FAA regarding aviation safety.

(c) Disclosing information to the National Transportation Safety Board in connection with its investigation responsibilities.

(d) Providing information about airmen to Federal, State, local and tribal law enforcement agencies when engaged in an official investigation in which an airman is involved.

(e) Providing information about enforcement actions, or orders issued thereunder, to Federal agencies, the aviation industry, and the public upon request.

(f) Making records of delinquent civil penalties owed to the FAA available to the U.S. Department of the Treasury and the U.S. Department of Justice (DOJ) for collection pursuant to 31 U.S.C. 3711(g).

(g) Making records of effective orders against the certificates of airmen available to their employers if the airmen use the affected certificates to perform job responsibilities for those employers.

(h) Making airmen records available to users of FAA's Safety Performance Analysis System (SPAS), including the Department of Defense Commercial Airlift Division's Air Carrier Analysis Support System (ACAS) for its use in identifying safety hazards and risk areas, targeting inspection efforts for certificate holders of greatest risk, and monitoring the effectiveness of targeted oversight actions.

(i) Making records of an individual's positive drug test result, alcohol test result of 0.04 or greater breath alcohol concentration, or refusal to submit to testing required under a DOT-required testing program, available to third parties, including current and prospective employers of such individuals. Such records also contain the names and titles of individuals who, in their commercial capacity, administer the drug and alcohol testing programs of aviation entities.

(j) Providing information about airmen through the Civil Aviation Registry's Comprehensive Airmen Information System to the Department of Health and Human Services, Office of Child Support Enforcement, and the Federal Parent Locator Service that locates noncustodial parents who owe child support. Records in this system are used to identify airmen to the child support agencies nationwide in enforcing child support obligations, establishing paternity, establishing and modifying support orders and location of obligors. Records listed within the section on Categories of Records are retrieved using Connect: Direct through the Social Security Administration's secure environment.

(k) Making personally identifiable information about airmen available to other Federal agencies for the purpose of verifying the accuracy and completeness of medical information provided to FAA in connection with applications for airmen medical certification.

(l) Making records of past airman medical certification history data available to Aviation Medical Examiners (AMEs) on a routine basis so that AMEs may render the best medical certification decision.

(m) Making airman, aircraft and operator record elements available to users of FAA's Skywatch system, including the Department of Defense, the Department of Homeland Security (DHS), DOJ and other authorized Federal agencies, for their use in managing, tracking and reporting aviation-related security events.

(n) Other possible routine uses published in the Federal Register (see Prefatory Statement of General Routine Uses for additional uses (65 FR 19477-78) For example, a record from this system of records may be disclosed to the United States Coast Guard (Coast Guard) and to the Transportation Security Administration (TSA) if information from this system was shared with either agency when that agency was a component of the Department of Transportation (DOT) before its transfer to DHS and such disclosure is necessary to accomplish a DOT, TSA or Coast Guard function related to this system of records.

Your signature on this form (FAA Form 8710-1) acknowledges that you received the Pilot's Bill of Rights Written Notification of Investigation at the time of this application.

PILOT'S BILL OF RIGHTS WRITTEN NOTIFICATION OF INVESTIGATION

The information you submit on the attached FAA Form 8710-1, Airman Certificate and/or Rating Application, will be used by the Administrator of the Federal Aviation Administration as part of the basis for issuing an airman certificate, rating, or inspection authorization to you under Title 49, United States Code (U.S.C.) section 44703(a), if the Administrator finds, after investigation, that you are qualified for, and physically able to perform the duties related to the certificate, rating, or inspection authorization for which you are applying. Therefore, in accordance with the Pilot's Bill of Rights, the Administrator is providing you with this written notification of investigation of your qualifications for an airman certificate, rating, or inspection authorization:

- The nature of the Administrator's investigation, which is precipitated by your submission of this application, is to determine whether you meet the qualifications for the airman certificate, rating, or inspection authorization you are applying for under Title 14, Code of Federal Regulations (CFR) part 61.

- Any response to an inquiry by a representative of the Administrator by you in connection with this investigation of your qualifications for an airman certificate, rating, or inspection authorization may be used as evidence against you.

- A copy of your airman application file for this date is available to you upon your written request addressed to:

Federal Aviation Administration
Airmen Certification Branch,
AFS-760 P.O. Box 25082
Oklahoma City, OK 73125-0082

(If you make a written request for your airman application file, please provide your full name, date of birth or airman certification number for identification purposes, and the date of application.)

AIRMAN CERTIFICATE AND/OR RATING APPLICATION
INSTRUCTIONS FOR COMPLETING FAA FORM 8710-1

I. APPLICATION INFORMATION. *Mark "X" in all appropriate blocks(s).*

Note: *Please enter all dates in eight digits as MM/DD/YYYY. Use numeric characters, (e.g. 01/01/2014).*

Block A. Name. Enter full legal name (Last, First, Middle). If your full legal name is more than 50 characters, use no more than one middle name for record purposes. Do not change the name on subsequent applications unless it is done in accordance with 14 CFR part 61.25. If you do not have a middle name, enter "NMN." If you have a middle initial only, indicate "Initial only." Indicate if you are a Jr., II, or III.

Block B. Social Security Number. Enter either your 9-digit social security number, "Do Not Use" or "None" if you are not a U.S. citizen. If entering a social security number, only enter a 9-digit U.S. social security number (optional). See supplemental Privacy Act Information.

Block C. Date of Birth. Enter your date of birth in the following format: MM/DD/YYYY. Check for accuracy. Verify that DOB is the same as it is on the medical certificate.

Block D. Place of Birth. If you were born in the USA, enter the city and state where you were born. If the city is unknown, enter the county and state. If you were born outside the USA, enter the name of the city and country where you were born.

Block E1. Residential Address. Enter your complete residential address. This must include street number, city, state, and zip code. If the applicant has a foreign address, the country must be stated. If a residential address does not exist, a map or written directions to the applicant's physical residence must be attached to the application. Verify that the numbers are not transposed**.**

Block E2. Mailing Address. Enter your mailing address, if different than block E1. This may be a residence, post office box, rural route, flight school address, personal mail box (PMB), commercial address, or other mail drop location, as applicable. The address provided in block E2, if any, will be printed on the permanent airman certificate. If you want your airman certificate mailed to an address other than provided in blocks E1 or E2, you will need to provide instructions on a separate attachment or in the remarks section of the form.

Block F. Citizenship/Nationality. Mark USA if you are a U.S. Citizen or legally naturalized U.S. Citizen. If you are not a U.S. citizen, mark "Other" and enter the country where you are a legal citizen. To claim Dual Citizenship the applicant must present appropriate documentation of citizenship for each country.

Block G. Do you read, speak, write and understand the English language? Mark yes or no. If you answered "No" and it is due to medical reasons, an operating limitation will be placed on the airman certificate.

Block H. Height. Enter your height in inches. Example: 5'8" would be entered as 68 in. No fractions, use whole inches only.

Block I. Weight. Enter your weight in pounds. No fractions, use whole pounds only.

Block J. Hair Color. Spell out the color of your hair. Choose from the following: bald, black, blond, brown, gray, red or white. If you wear a wig or toupee, enter the color of your hair under the wig or toupee.

Block K. Eye Color. Spell out the color of your eyes. Choose from the following: black, blue, brown, gray, green, or hazel.

Block L. Sex. Mark either Male or Female as appropriate.

Block M. Do You Hold or Have You Ever Held An FAA Pilot Certificate? Mark yes or no. (NOTE: A student pilot certificate is a pilot certificate.) If. Yes, complete Blocks M1, M2, and M3.

Block M1. Grade of Certificate. Enter the grade of the FAA pilot certificate you hold (i.e., Student, Recreational, Private, Commercial, or ATP). DO NOT enter flight instructor certificate information.

Block M2. Certificate Number. Enter your current FAA certificate number as it appears on the pilot certificate.

Block M3. Date Issued. Enter the date your pilot certificate was last issued.

Block N. Do You Hold a Medical Certificate? Mark applicable boxes. If yes, complete blocks N1, N2, and N3.

Block N1. Class of Medical Certificate. Enter the class as shown on the medical certificate, (i.e., First, Second, or Third Class).

Block N2. Name of Medical Examiner. Enter the medical examiner's name as shown on your medical certificate.

Block N3. Date Issued. Enter the date your medical certificate was issued.

Block O. Narcotics Drugs. Mark appropriate block. Only mark "Yes" if you have actually been convicted. If you have been charged with a violation which has not been adjudicated, mark "No." Do not include alcohol offenses involving a motor vehicle mode of transportation as those are covered on the FAA Form 8500-8, Medical application.

Block O1. Date of Final Conviction. If block "N" was marked "Yes" provide the date of final conviction.

II. CERTIFICATE OR RATING APPLIED FOR ON BASIS OF:

Block A. Completion of Required Test.

1. Aircraft to be used. (If flight test required) – Enter the make and model of each aircraft used or represented. If a flight simulation training device (FSTD) is used, indicate Level of Device(s).
2. Total time in this aircraft and/or approved full flight simulator (FFS) or flight training device (FTD) (Hrs.) – (2a) Enter the total Flight Time (2b) Enter Pilot-In-Command (PIC) Flight Time.

Block B. U.S. Military Competence Or Experience. Enter your branch of service, date rated as a U.S. military pilot, and your rank or grade. In block 4a and 4b, enter the make and model of each military aircraft used to qualify (as appropriate).

Block C. Graduate of an Approved Course.

1. Name, Location, Certification Number of Training Agency/Center, as shown on the graduation certificate. Indicate if this was a part 142 training center.
2. Curriculum From Which Graduated. Enter name of curriculum and level, category, and/or type rating, as applicable.
3. Date. Date of graduation from indicated course.

Note: *Approved course graduate must also complete block A "Completion of Test or Activity," if the course is not part of an Air Agency or a part 142 Training Center.*

Block D. Holder of Foreign License.

1. Country that Issued the Foreign Pilot License.
2. Grade Of Foreign Pilot License (i.e. private, commercial, etc).
3. Number. Number which appears on the foreign license.
4. Ratings. Enter the FAA equivalent only ratings that appear on the foreign license. Indicate the ratings as they will appear on the FAA Certificate (i.e. ASEL, AMEL, ROTORCRAFT HELICOPTER, CE-500, etc).

Block E. Completion of Air Carrier's Training Program.

1. Name of air carrier.
2. Date program was started.
3. Identify the training program accomplished.

III. RECORD OF PILOT TIME. At a minimum, the applicant should complete the blocks applicable to the certificate or rating sought; however, it is recommended that all pilot time be entered. If decimal points are utilized, ensure that they are legible. Time entered in the "Class Totals" block should reflect time in aircraft class for the certificate or rating sought with this application. The time entered for an FFS, FTD, and/or ATD may be credited towards the total time in the category, class, and instrument time as permitted by the regulations. Add any Flight Engineer time used for ATP in remarks section.

IV. HAVE YOU FAILED A PRACTICAL TEST FOR THIS CERTIFICATE OR RATING? Mark "Yes" or "No" as appropriate.

V. APPLICANT'S CERTIFICATION.

A. Signature. Sign your name.
B. Date. The date you signed the application.

FAA Form 8710-1 (08-14) Supersedes Previous Edition NSN: 0052-00-682-5007

iv

TYPE OR PRINT ALL ENTRIES IN INK

Form approved OMB No:2120-0021
Exp. 12/31/2014

U.S. Department of Transportation
Federal Aviation Administration

Airman Certificate and/or Rating Application

I. APPLICATION INFORMATION (Mark 'X' in all the blocks applicable to the certificate or rating for which you are applying):

Certificates	Ratings	Other Information/Requests
Pilot: ☐ Student ☐ Recreational ☐ Private ☐ Commercial ☐ ATP-Restricted ☐ ATP *Instructor:* ☐ Flight ☐ Ground	*Category and/or Class:* ☐ ASE ☐ AME ☐ Land ☐ Sea ☐ Helicopter ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Airship ☐ Powered-Lift Type Rating: *Instrument:* ☐ Airplane ☐ Helicopter ☐ Powered-Lift *Ground Instructor:* ☐ Basic ☐ Advanced ☐ Instrument ☐ Added Rating	☐ Initial ☐ Reexamination ☐ Instrument Proficiency Check ☐ Renewal ☐ Reissuance ☐ Medical Flight Test ☐ Reinstatement ☐ Flight Review ☐ Limitation Removal *Specify other:* ☐ IPL

A. Name *(Last, First, Middle)*	B. SSN *(U.S. Only)*	C. Date of Birth MM/DD/YYYY	D. Place of Birth *(City and State) or (City and Country)*

E1. Residential Address *(Including City, State, Zip Code, and Country)*	E2. Mailing Address *(This address will be printed on the permanent airman certificate, if different than block E1.)*	F. Citizenship / Nationality ☐ USA ☐ Other *specify:*	G. Do you read, speak, write, & understand the English language? ☐ Yes ☐ No

H. Height *(inches)*	I. Weight *(pounds)*	J. Hair Color	K. Eye Color	L. Sex ☐ Male ☐ Female

M. Do you hold, or have you ever held an FAA certificate? ☐ Yes ☐ No	M1. Grade of Certificate	M2. Certificate Number	M3. Date Issued
N. Do you hold a Medical Certificate? ☐ Yes - FAA ☐ Yes - Foreign ☐ Yes-Military ☐ No	**N1. Class of Medical Certificate**	**N2. Name of Medical Examiner**	**N3. Date Issued**

O. Have you ever been convicted for violation of any Federal or State statutes relating to narcotic drugs, marijuana, or depressant or stimulant drugs or substances? *Do not include alcohol offenses involving motor vehicle mode of transportation as those offenses are covered on the FAA Form 8500-8, Airman Medical Application Form.* ☐ Yes ☐ No — O1. Date of Final Conviction

II. CERTIFICATE OR RATING APPLIED FOR ON BASIS OF:

☐ A. Completion of Test or Activity	1. Aircraft to be used *(If flight test required)*	2. Total time in this aircraft and/ or approved FFS or FTD *(hours)*	a. Flight Time	b. As Pilot-in-Command
☐ B. U.S. Military Competence or Experience	1. U.S. Military Service	2. Date Rated in U.S. Military	3. Rank or Grade	
	4. List Military aircraft for which you have:	a. logged pilot time or provided flight instruction (IP) *(make and model)*	b. passed an Instrument Proficiency Check *(Pilot or CFI) - (make and model)*	

☐ C Graduate of an Approved Course	1. Training Agency or Training Center:	1a. Name	1b. Location *(City and State)*	1c. Certification Number	1d. Part 142? ☐ Yes ☐ No
	2. Curriculum From Which Graduated *(Level, Category, and Class and/or Type Rating)*				3. Date

☐ D Holder of Foreign License	1. Country that Issued the Foreign Pilot License	2. Grade of Foreign Pilot License	3. Foreign Pilot License Number
	4. Ratings Held on Foreign Pilot License *(FAA equivalent only – e.g. ASEL, AMEL, Type rating, etc.)*		

☐ E. Air Carrier Training Program	1. Name of Air Carrier	2. Date Training Began	3. Accomplished Training Program ☐ Initial ☐ Upgrade ☐ Transition ☐ Recurrent

III. RECORD OF PILOT TIME *(Do not write in the shaded areas)*

	Total	Instruction Received	Solo	PIC and SIC	Cross Country Instruction Received	Cross Country Solo	Cross Country PIC/SIC	Instrument	Night Instruction Received	Night Take-Off / Landing	Night PIC/SIC	Night Take-Off/Landing PIC/SIC	Class Totals	Number of Flights	Aero-Tows	Ground Launches	Powered Launches
Airplanes				PIC / SIC			PIC / SIC				PIC / SIC	PIC / SIC	SEL / MEL / SES / MES				
Rotorcraft				PIC / SIC			PIC / SIC				PIC / SIC	PIC / SIC	Helicopter / Gyroplane				
Powered Lift				PIC / SIC			PIC / SIC				PIC / SIC	PIC / SIC					
Gliders				PIC / SIC													
Lighter-Than-Air				PIC / SIC			PIC / SIC				PIC / SIC	PIC / SIC	Balloon / Airship				
FFS																	
FTD																	
ATD																	

IV. Have you previously failed the practical test for the certificate or rating for which you are applying? ☐ Yes ☐ No If Yes, enter date of last disapproval

V. APPLICANT'S CERTIFICATION: I certify that all statements and answers provided by me on this application form are complete and true to the best of my knowledge and I agree that they are to be considered as part of the basis for issuance of any FAA certificate to me. I have received the Pilot's Bill of Rights Written Notification of Investigation that accompanies this form. I have also read and understand the Privacy Act statement that accompanies this form.

Signature of Applicant	Date MM/DD/YYYY

FAA Form 8710-1 (08-14) Supersedes Previous Edition

NSN: 0052-00-682-5007

Page 1 of 2

Instructor Action

☐ Flight Review ☐ Instrument Proficiency Check ☐ Recommendation - *I have personally instructed the applicant and consider this person ready to take the test.*

Date	Certified Flight Instructor's Signature *(Print Name and Sign)*	Certificate Number	CFI Certificate Expires

Air Agency's Recommendation

The applicant has successfully completed our _____ course, and is recommended for certificate or rating without further practical test.

Date	Agency Name and Number	Official Signature

Designated Examiner or Airman Certification Representative Report

☐ Student Pilot Certificate Issued (Copy attached)
☐ I have personally reviewed this applicant's pilot logbook and/or training record, and I certify that the individual meets the applicable requirements of 14 CFR Part 61 for the certificate or rating sought.
☐ I have personally reviewed this applicant's graduation certificate, and found it to be appropriate and in order, and have returned the certificate.
☐ I have personally tested and/or verified this applicant in accordance with pertinent procedures and standards with the result indicated below.
☐ I have personally delivered the Written Notification under the Pilot's Bill of Rights to the applicant.
☐ Approved – Temporary Certificate Issued (Original Attached) ☐ Disapproved – Disapproval Notice Issued (Original Attached)

Location of Test *(Name of Facility or Airport, City, State)*	Duration of Test		
	Ground / Oral	FFS / FTD	Flight

Certificate or Rating Being Applied For *(Grade, Category, Class and/or Type Rating)*	Type(s) of Aircraft Used	Registration Number(s)

Date	Examiner's Signature *(Print Name & Sign)*	Certificate Number	Designation Number	Designation Expires

Evaluator's Record (*Use for All ATP Certificate(s) and/or Type Rating(s)*)

	Inspector	Examiner	Signature and Certificate Number	Date
Ground / Oral	☐	☐	_____	_____
Approved FFS/FTD Check	☐	☐	_____	_____
Aircraft Flight Check	☐	☐	_____	_____
Advanced Qualification Program	☐	☐	_____	_____

Aviation Safety Inspector or Technician Report

I have personally tested this applicant in accordance with or have otherwise verified that this applicant complies with, pertinent procedures, standards, policies, and or necessary requirements with the result indicated below. (*The approved box need only checked if the Inspector is the one that issued the temporary airman certificate)*

☐ I have personally delivered the Written Notification under the Pilot's Bill of Rights to the applicant.
☐ Approved – Temporary Certificate Issued (Original Attached) ☐ Disapproved – Disapproval Notice Issued (Original Attached)

Location of Test *(Name of Facility or Airport, City, State)*	Duration of Practical Test		
	Ground / Oral	FFS / FTD	Flight

Certificate or Rating Being Applied For *(Grade, Category, Class and/or Type Rating)*	Type(s) of Aircraft Used	Registration No.(s)

Certification Activities:
☐ Examiner's Recommendation Provided/Reviewed ☐ Accepted ☐ Rejected
☐ Student Pilot Certificate Issued
☐ Reissue or exchange of pilot, CFI, or G.I. certificate
☐ Change of name, nationality, gender or date of birth
☐ SIC Type Rating issued under § 61.55(b) (Part 91)

☐ Ground Instructor Certificate Issued ☐ Basic ☐ Advanced ☐ Instrument

☐ Flight Instructor Certificate Issued ☐ Initial ☐ Renewal ☐ Reinstatement
Instructor Renewal Based On:
☐ Activity ☐ Training Course ☐ Test ☐ Duties and Responsibilities ☐ Military Instructor Proficiency Check

Certificate or Rating Based on:
☐ Approved FAA Qualification ☐ Military Competency Criteria Not Identified on Page 1 ☐ Foreign License
☐ Special medical test conducted – report forwarded to issuing medical office or AAM-300
☐ Special Test-Reexamination (44709) conducted ☐ Approved ☐ Disapproved

Training Course (FIRC) Name	Graduation Certificate Number	Date of FIRC Graduation Certificate

Date	Inspector's Signature *(Print Name & Sign)*	Certificate Number	FAA Office (e.g. SO-15, WP-19)

Attachments:
☐ Student Pilot Certificate (Copy)
☐ College Transcript (Official)
☐ ATP CTP Graduation Certificate
☐ Knowledge Test Report
☐ Temporary Airman Certificate
☐ Notice of Disapproval
☐ Superseded Airman Certificate

Airman's Identification (ID) *(U.S. driver's license or passport recommended)*	Applicant Information *(required if printed on 2 pages)*
Form of ID	Name
ID Number *(If issued by State, include State)*	Date of Birth
Expiration Date *(must be valid)*	Certificate Number
Telephone Number	E-Mail Address
REMARKS from Inspector or Examiner :	

FAA Form 8710-1 (08-14) Supersedes Previous Edition

Stage 1 Exam
Instrument Ground Instructor

Note: for Figures in the Stage Exams, see the figures printed at the end of this Appendix (pages 48 – 63).

1. No pilot may act as pilot-in-command of an aircraft under IFR or in weather conditions less than the minimums prescribed for VFR unless that pilot has, within the preceding 6 calendar months, completed at least

   A—three instrument approaches and logged 3 hours.
   B—six instrument flights under actual IFR conditions.
   C—six instrument approaches, holding procedures, intercepting and tracking courses using navigational systems, or passed an instrument proficiency check.

2. In the 48 contiguous states, excluding the airspace at or below 2,500 feet AGL, an operable coded transponder equipped with Mode C capability is required in all controlled airspace at and above

   A—12,500 feet MSL.
   B—10,000 feet MSL.
   C—Flight level (FL) 180.

3. What are the minimum fuel requirements in IFR conditions, if the first airport of intended landing is forecast to have a 1,500-foot ceiling and 3 miles visibility at flight-planned ETA? Fuel to fly to the first airport of intended landing,

   A—and fly thereafter for 45 minutes at normal cruising speed.
   B—fly to the alternate, and fly thereafter for 45 minutes at normal cruising speed.
   C—fly to the alternate, and fly thereafter for 30 minutes at normal cruising speed.

4. Which data must be recorded in the aircraft log or other appropriate log by a pilot making a VOR operational check for IFR operations?

   A—VOR name or identification, date of check, amount of bearing error, and signature.
   B—Place of operational check, amount of bearing error, date of check, and signature.
   C—Date of check, VOR name or identification, place of operational check, and amount of bearing error.

5. An aircraft altimeter system test and inspection must be accomplished within

   A—12 calendar months.
   B—18 calendar months.
   C—24 calendar months.

6. When is an IFR clearance required during VFR weather conditions?

   A—When operating in the Class E airspace.
   B—When operating in a Class A airspace.
   C—When operating in airspace above 14,500 feet.

7. When may a pilot cancel the IFR flight plan prior to completing the flight?

   A—Any time.
   B—Only if an emergency occurs.
   C—Only in VFR conditions when not in Class A airspace.

8. Which types of airspace are depicted on the Enroute Low Altitude Chart?

   A—Limits of controlled airspace, military training routes and special use airspace.
   B—Class A, special use airspace, Class D, and Class E.
   C—Special use airspace, Class E, Class D, Class A, Class B, and Class C.

9. What are the four families of clouds?

   A—Stratus, cumulus, nimbus, and cirrus.
   B—Clouds formed by updrafts, fronts, cooling layers of air, and precipitation into warm air.
   C—High, middle, low, and those with extensive vertical development.

10. Under which condition does advection fog usually form?

    A—Moist air moving over colder ground or water.
    B—Warm, moist air settling over a cool surface under no-wind conditions.
    C—A land breeze blowing a cold air mass over a warm water current.

11. When the visibility is greater than 6 SM on a TAF it is expressed as

    A—6PSM.
    B—P6SM.
    C—6SMP.

12. A pilot planning to depart at 1100Z on an IFR flight is particularly concerned about the hazard of icing. What sources reflect the most accurate information on icing conditions (current and forecast) at the time of departure?

    A—Low-Level Significant Weather Prognostic Chart, and the Area Forecast.
    B—The Area Forecast, and the Freezing Level Chart.
    C—Pilot weather reports (PIREPs), AIRMETs, and SIGMETs.

13. (Refer to Figure 8.) What weather conditions are depicted in the area indicated by arrow G on the Radar Summary Chart?

    A—Echo bases 10,000 feet MSL; cell movement toward northeast at 15 knots; weak to moderate echoes; rain.
    B—Area movement toward northeast at 15 knots; rain decreasing in intensity; echo bases 1,000 feet MSL; strong echoes.
    C—Strong to very strong echoes; area movement toward northeast at 15 knots; echo tops 10,000 feet MSL; light rain.

14. (Refer to Figure 55.) Using an average ground speed of 90 knots, what constant rate of descent from 2,400 feet MSL at the 6 DME fix would enable the aircraft to arrive at 2,000 feet MSL at the FAF?

    A—200 feet per minute.
    B—400 feet per minute.
    C—600 feet per minute.

15. What service is provided by departure control to an IFR flight when operating within the outer area of Class C airspace?

    A—Separation from all aircraft.
    B—Position and altitude of all traffic within 2 miles of the IFR pilot's line of flight and altitude.
    C—Separation from all IFR aircraft and participating VFR aircraft.

16. Which DME indication should you receive when you are directly over a VORTAC site at approximately 6,000 feet AGL?

    A—0
    B—1
    C—1.3

17. Unless otherwise prescribed, what is the rule regarding altitude and course to be maintained during an IFR off-airways flight over mountainous terrain?

    A—1,000 feet above the highest obstacle within a horizontal distance of 4 NM of course.
    B—2,000 feet above the highest obstacle within a horizontal distance of 5 NM of course.
    C—2,000 feet above the highest obstacle within 4 NM of course.

18. What is the definition of MEA?

    A—The lowest published altitude which meets obstacle clearance requirements and assures acceptable navigational signal coverage.
    B—The lowest published altitude which meets obstacle requirements, assures acceptable navigational signal coverage, two-way radio communications, and provides adequate radar coverage.
    C—An altitude which meets obstacle clearance requirements, assures acceptable navigation signal coverage, two-way radio communications, adequate radar coverage, and accurate DME mileage.

19. The altitude that provides acceptable navigational signal coverage for the route, and meets obstacle clearance requirements, is the minimum:

    A—enroute altitude.
    B—reception altitude.
    C—obstacle clearance altitude.

20. Which rules apply to the pilot in command when operating on a VFR-On-Top clearance?

    A—VFR only.
    B—VFR and IFR.
    C—VFR when “in the clear” and IFR when “in the clouds.”

21. Which report should be made to ATC without a specific request when not in radar contact?

    A—Entering instrument meteorological conditions.
    B—When leaving final approach fix inbound on final approach.
    C—Correcting an E.T.A. any time a previous E.T.A. is in error in excess of 2 minutes.

22. What responsibility does the pilot-in-command of an IFR flight assume upon entering VFR conditions?

    A—Report VFR conditions to ARTCC so that an amended clearance may be issued.
    B—Use VFR operating procedures.
    C—To see and avoid other traffic.

23. (Refer to Figure 89.) When flying from Milford Municipal to Bryce Canyon via V235 and V293, what minimum altitude should you be at when crossing Cedar City VOR?

    A—11,400 feet.
    B—12,000 feet.
    C—13,000 feet.

24. (Refer to Figure 91.) What lighting is indicated on the chart for Jackson Hole Airport?

A—Lights on prior request.
B—No lighting available.
C—Pilot controlled lighting.

25. (Refer to Figure 94.) What colors are runway holding position signs?

A—White with a red background.
B—Red with a white background.
C—Yellow with a black background.

26. In the case of operations over an area designated as a mountainous area where no other minimum altitude is prescribed, no person may operate an aircraft under IFR below an altitude of

A—500 feet above the highest obstacle.
B—1,000 feet above the highest obstacle.
C—2,000 feet above the highest obstacle.

27. When using VOR for navigation, which of the following should be considered as station passage?

A—The first movement of the CDI as the airplane enters the zone of confusion.
B—The moment the TO-FROM indicator becomes blank.
C—The first positive, complete reversal of the TO-FROM indicator.

28. To comply with ATC instructions for altitude changes of more than 1,000 feet, what rate of climb or descent should be used?

A—As rapidly as practicable to 500 feet above/below the assigned altitude, and then at 500 feet per minute until the assigned altitude is reached.
B—1,000 feet per minute during climb and 500 feet per minute during descents until reaching the assigned altitude.
C—As rapidly as practicable to 1,000 feet above/below the assigned altitude, and then between 500 and 1,500 feet per minute until reaching the assigned altitude.

29. (Refer to Figure 115.) You receive this ATC clearance:

"...HOLD WEST OF THE ONE FIVE DME FIX ON THE ZERO ZINE ZERO RADIAL OF ABC VORTAC, FIVE MILE LEGS, LEFT TURNS..."

You arrive at the 15 DME fix on a heading of 350°. Which holding pattern correctly complies with these instructions, and what is the recommended entry procedure?

A—1; teardrop.
B—2; direct.
C—1; direct.

30. When holding at an NDB, at what point should the timing begin for the second leg outbound?

A—When the wings are level and the wind drift correction angle is established after completing the turn to the outbound heading.
B—When the wings are level after completing the turn to the outbound heading, or abeam the fix, whichever occurs first.
C—When abeam the holding fix.

31. When a VOR/DME is collocated under frequency pairings and the VOR portion is inoperative, the DME identifier will repeat at an interval of

A—20-second intervals at 1020 Hz.
B—30-second intervals at 1350 Hz.
C—60-second intervals at 1350 Hz.

32. (Refer to Figure 130.) How should the pilot identify the missed approach point for the S-LDA GS 6 approach to Roanoke Regional?

A—Arrival at 1,540 feet on the glide slope.
B—Arrival at 1.0 DME on the LDA course.
C—Time expired for distance from OM to MAP.

33. What effect will a change in wind direction have upon maintaining a 3° glide slope at a constant true airspeed?

A—When ground speed decreases, rate of descent must increase.
B—When ground speed increases, rate of descent must increase.
C—Rate of descent must be constant to remain on the glide slope.

34. While flying a 3° glide slope, a headwind shears to a tailwind. Which conditions should the pilot expect on the glide slope?

A—Airspeed and pitch attitude decrease and there is a tendency to go below glide slope.
B—Airspeed and pitch attitude increase and there is a tendency to go above glide slope.
C—Airspeed and pitch attitude decrease and there is a tendency to remain on the glide slope.

35. Which substitution is appropriate during an ILS approach?

A—A VOR radial crossing the outer marker site may be substituted for the outer marker.
B—LOC minimums should be substituted for ILS minimums whenever the glide slope becomes inoperative.
C—DME, when located at the localizer antenna site, should be substituted for either the outer or middle marker.

36. What visual illusion creates the same effect as a narrower-than-usual runway?

A—An upsloping runway.
B—A wider-than-usual runway.
C—A downsloping runway.

37. As a rule of thumb, altitude corrections of less than 100 feet should be corrected by using a

A—full bar width on the attitude indicator.
B—half bar width on the attitude indicator.
C—two bar width on the attitude indicator.

38. What is the initial primary bank instrument when establishing a level standard rate turn?

A—Turn coordinator.
B—Heading indicator.
C—Attitude indicator.

39. During standard-rate turns, which instrument is considered primary for bank?

A—Heading indicator.
B—Turn and slip indicator or turn coordinator.
C—Attitude indicator.

40. Which practical test should be made on the electric gyro instruments prior to starting an engine?

A—Check that the electrical connections are secure on the back of the instruments.
B—Check that the attitude of the miniature aircraft is wings level before turning on electrical power.
C—Turn on the electrical power and listen for any unusual or irregular mechanical noise.

41. On what headings will the magnetic compass read most accurately during a level 360° turn, with a bank of approximately 15°?

A—135° through 225°.
B—90° and 270°.
C—180° and 0°.

42. To level off from a descent to a specific altitude, the pilot should lead the level-off by approximately

A—10 percent of the vertical speed.
B—30 percent of the vertical speed.
C—50 percent of the vertical speed.

43. (Refer to Figure 144.) Which illustration indicates a slipping turn?

A—1
B—3
C—2

44. The "runway hold position" sign denotes

A—intersecting runways.
B—an entrance to runway from a taxiway.
C—an area protected for an aircraft approaching a runway.

45. Hand-held GPS systems, and GPS systems certified for VFR operation, may be used during IFR operations as

A—the principal reference to determine enroute waypoints.
B—an aid to situational awareness.
C—the primary source of navigation.

46. When icing is detected, particularly while operating an aircraaft without deicing equipment, the pilot should

A—fly to an area with liquid precipitation.
B—fly to a lower altitude.
C—leave the area of precipitation or go to an altitude where the temperature is above freezing.

47. The ILS critical area markings denote

A—where you are clear of the runway.
B—where you must be to start your ILS procedure.
C—where you are clear of the ILS critical area.

48. When may VFR waypoints be used on an IFR flight plan?

A—Never.
B—Always.
C—When filing a composite flight plan.

49. In what circumstances would a baro-VNAV approach not be authorized?

A—When the ground-based NAVAIDs, such as the ILS, are out of service.
B—In areas of hazardous terrain or when a remote altimeter setting is required.
C—When the lower limit of the published temperature is -20°C and the outside temperature is -15°C.

50. Automation in aircraft has proven

A—to present new hazards in its limitations.
B—that automation is basically flawless.
C—effective in preventing accidents.

Stage 2 Exam
Instrument Flight Instructor Airplane

Note: for Figures in the Stage Exams, see the figures printed at the end of this Appendix (pages 48 – 63).

1. An airport may not be qualified for alternate use if

   A—the airport has only AWOS-3 weather reporting.
   B—the airport is located next to a restricted or prohibited area.
   C—the only standard approach procedure is GPS.

2. (Refer to Figure 8.) What weather conditions are depicted in the area indicated by arrow A on the Radar Summary Chart?

   A—Moderate to strong echoes; echo tops 30,000 feet MSL; line movement toward the northwest.
   B—Weak to moderate echoes; average echo bases 30,000 feet MSL; cell movement toward the southeast; rain showers with thunder.
   C—Strong to very strong echoes; echo tops 30,000 feet MSL; thunderstorms and rain showers.

3. (Refer to Figure 8.) What weather conditions are depicted in the area indicated by arrow C on the Radar Summary Chart?

   A—Average echo bases 2,800 feet MSL, thundershowers, and intense to extreme echo intensity.
   B—Cell movement toward the northwest at 20 knots, intense echoes, and echo bases 28,000 feet MSL.
   C—Area movement toward the northeast, strong to very strong echoes, and echo tops 28,000 feet MSL.

4. The altitude that provides acceptable navigational signal coverage for the route, and meets obstacle clearance requirements, is the minimum:

   A—enroute altitude.
   B—reception altitude.
   C—obstacle clearance altitude.

5. Which condition is guaranteed for all of the following altitude limits: MAA, MCA, MRA, MOCA, and MEA? (Non-mountainous area.)

   A—Adequate navigation signals.
   B—Adequate communications.
   C—1,000-foot obstacle clearance.

6. AIRMETs are issued on a scheduled basis every

   A—15 minutes after the hour only.
   B—15 minutes until the AIRMET is canceled.
   C—six hours.

7. Pilots on IFR flights seeking ATC in-flight weather avoidance assistance should keep in mind that

   A—ATC radar limitations and, frequency congestion may limit the controller's capability to provide this service.
   B—circumnavigating severe weather can only be accommodated in the enroute areas away from terminals because of congestion.
   C—ATC Narrow Band Radar does not provide the controller with weather intensity capability.

8. (Refer to Figure 91.) Where should you change VOR frequencies when en route from DBS VORTAC to JAC VOR/DME on V520?

   A—35 NM from DBS VORTAC.
   B—60 NM from DBS VORTAC.
   C—60 NM from JAC VOR/DME.

9. (Refer to Figure 91.) What is the minimum crossing altitude at SABAT intersection when eastbound from DBS VORTAC on V298?

   A—8,300 feet.
   B—11,100 feet.
   C—13,000 feet.

10. (Refer to Figure 101.) What is the magnetic bearing TO the station?

    A—060°.
    B—260°.
    C—270°.

11. (Refer to Figure 100.) What is the magnetic bearing TO the station as indicated by Illustration 4?

    A—285°.
    B—055°.
    C—235°.

12. (Refer to Figure 100.) Which RMI illustration indicates the aircraft is located on the 055° radial of the station and heading away from the station?

    A—1
    B—2
    C—3

13. When more than one circuit of the holding pattern is needed to lose altitude or become better established on course, the additional circuits can be made

    A—at pilot's discretion.
    B—only in an emergency.
    C—only if pilot advises ATC and ATC approves.

14. During an instrument approach, under what conditions, if any, is the holding pattern course reversal not required?

    A—When radar vectors are provided.
    B—When cleared for the approach.
    C—None, since it is always mandatory.

15. (Refer to Figure 128.) What type entry is recommended for the missed approach holding pattern depicted on the VOR RWY 36 approach chart for Price/Carbon County Airport?

    A—Direct only.
    B—Teardrop only.
    C—Parallel only.

16. (Refer to Figure 129.) What type of entry is recommended to the missed approach holding pattern if the inbound heading is 050°?

    A—Direct.
    B—Parallel.
    C—Teardrop.

17. Which of the following statements is true regarding Parallel ILS approaches?

    A—Parallel ILS approach runway centerlines are separated by at least 4,300 feet and standard IFR separation is provided on the adjacent runway.
    B—Parallel ILS approaches provide aircraft a minimum of 1-1/2 miles radar separation between successive aircraft on the adjacent localizer course.
    C—Landing minimums to the adjacent runway will be higher than the minimums to the primary runway, but will normally be lower than the published circling minimums.

18. What is the difference between a Localizer-Type Directional Aid (LDA) and the ILS localizer?

    A—The LDA is not aligned with the runway.
    B—The LDA uses a course width of 6° or 12°, while an ILS uses only 5°.
    C—The LDA signal is generated from a VOR-type facility and has no glide slope.

19. Which range facility associated with the ILS is identified by the last two letters of the localizer identification group?

    A—Inner marker.
    B—Outer marker.
    C—Middle compass locator.

20. Which range facility associated with the ILS can be identified by a two-letter coded signal?

    A—Middle marker.
    B—Outer marker.
    C—Compass locator.

21. Approximately what height is the glide slope centerline at the MM of a typical ILS?

    A—100 feet.
    B—200 feet.
    C—300 feet.

22. An airport without an authorized IAP may be included on an IFR flight plan as an alternate, if the current weather forecast indicates that the ceiling and visibility at the ETA will

    A—allow for descent from the IAF to landing under basic VFR conditions.
    B—be at least 1,000 feet and 1 mile.
    C—allow for a descent from the MEA, approach, and a landing under basic VFR conditions.

23. Which of the following indications would a pilot see while approaching to land on a runway served by a 2-bar VASI?

A—If on the glidepath, the near bars will appear red, and the far bars will appear white.
B—If departing to the high side of the glidepath, the far bars will change from red to white.
C—If on the glidepath, both near bars and far bars will appear white.

24. If an approach is being made to a runway that has an operating 3-bar VASI and all the VASI lights appear red as the airplane reaches the MDA, the pilot should

A—start a climb to reach the proper glidepath.
B—continue at the same rate of descent if the runway is in sight.
C—level off momentarily to intercept the proper approach path.

25. If Receiver Autonomous Integrity Monitoring (RAIM) is not available when setting up a GPS approach, the pilot should

A—use a navigation system other than GPS for the approach.
B—continue to the MAP and hold until the satellites are recaptured.
C—continue the approach, expecting to recapture the satellites before reaching the FAF.

26. An abrupt change from climb to straight-and-level flight can create the illusion of

A—tumbling backwards.
B—a nose-up attitude.
C—a descent with the wings level.

27. What effect does haze have on the ability to see traffic or terrain features during flight?

A—Haze causes the eyes to focus at infinity, making terrain features harder to see.
B—The eyes tend to overwork in haze and do not detect relative movement easily.
C—Haze creates the illusion of being a greater distance than actual from the runway, and causes pilots to fly a lower approach.

28. As a rule of thumb, altitude corrections of less than 100 feet should be corrected by using

A—two bar widths on the attitude indicator.
B—less than a full bar width on the attitude indicator.
C—less than half bar width on the attitude indicator.

29. What is the initial primary bank instrument when establishing a level standard rate turn?

A—Turn coordinator.
B—Heading indicator.
C—Attitude indicator.

30. If a standard rate turn is maintained, how much time would be required to turn to the right from a heading of 090° to a heading of 270°?

A—1 minute.
B—2 minutes.
C—3 minutes.

31. If a half-standard rate turn is maintained, how long would it take to turn 135°?

A—1 minute.
B—1 minute, 20 seconds.
C—1 minute, 30 seconds.

32. During flight, if the pitot tube becomes clogged with ice, which of the following instruments would be affected?

    A—The airspeed indicator only.
    B—The airspeed indicator and the altimeter.
    C—The airspeed indicator, altimeter, and Vertical Speed Indicator.

33. At an altitude of 6,500 feet MSL, the current altimeter setting is 30.42” Hg. The pressure altitude would be approximately

    A—7,500 feet.
    B—6,000 feet.
    C—6,500 feet.

34. If the outside air temperature increases during a flight at constant power and at a constant indicated altitude, the true airspeed will

    A—decrease and true altitude will increase.
    B—increase and true altitude will decrease.
    C—increase and true altitude will increase.

35. During recoveries from unusual attitudes, level flight is attained the instant

    A—the horizon bar on the attitude indicator is exactly overlapped with the miniature airplane.
    B—a zero rate of climb is indicated on the VSI.
    C—the altimeter and airspeed needles stop prior to reversing their direction of movement.

36. While cruising at 160 knots, you wish to establish a climb at 130 knots. When entering the climb (full panel), it is proper to make the initial pitch change by increasing back elevator pressure until the

    A—attitude indicator, airspeed, and vertical speed indicate a climb.
    B—vertical speed indication reaches the predetermined rate of climb.
    C—attitude indicator shows the approximate pitch attitude appropriate for the 130-knot climb.

37. (Refer to Figure 145.) What is the correct sequence for recovery from the unusual attitude indicated?

    A—Reduce power, increase back elevator pressure, and level the wings.
    B—Reduce power, level the wings, bring pitch attitude to level flight.
    C—Level the wings, raise the nose of the aircraft to level flight attitude, and obtain desired airspeed.

38. (Refer to Figure 148.) What is the flight attitude? One system which transmits information to the instruments has malfunctioned.

    A—Climbing turn to left.
    B—Climbing turn to right.
    C—Level turn to left.

39. (Refer to Figure 150.) What is the flight attitude? One instrument has malfunctioned.

    A—Climbing turn to the right.
    B—Climbing turn to the left.
    C—Descending turn to the right.

40. When turning onto a taxiway from another taxiway, the "taxiway directional sign" indicates the

    A—direction to the takeoff runway.
    B—designation and direction of taxiway leading out of an intersection.
    C—designation and direction of exit taxiway from runway.

41. (Refer to Figure 152). At what point is the pilot authorized to descend below 5,200 feet when cleared to the SUXYO waypoint from the West?

    A—24 NM from AJCIZ.
    B—24 NM from SUXYO.
    C—30 NM from SUXYO.

42. What should pilots do if icing is detected while also experiencing a rolling condition?

    A—lower the flaps to decrease airspeed.
    B—set power and angle of attack for a controlled descent.
    C—retract flaps and increase power.

43. What autopilot function should you turn off if icing is suspected?

    A—HDG (heading) mode.
    B—AUTO Approach (APP) mode.
    C—Turn autopilot off.

44. (Refer to Figure 152). How do you enter the approach if the aircraft is 27 DME from the AJCIZ intersection heading 300°?

    A—Begin final approach with a procedure turn.
    B—Begin final approach without a procedure turn.
    C—Continue to LNAV minimums after completing the procedure turn.

45. In a Technically Advanced Aircraft (TAA), the typical warning message is a

    A—flashing red indication with a repeating tone.
    B—yellow indication with a single tone.
    C—white or green indication with no tone.

46. (Refer to Figure 152.) Why is the required visibility for LNAV/VNAV higher than that for LNAV alone?

    A—The location of obstacles along the descent path.
    B—An LNAV/VNAV procedure always has higher visibility minimums.
    C—The location of the MAP in relation to the MDA for LNAV procedure requires lower visibility minimums.

47. When flying through supercooled water droplets, the first sign of structural ice accumulation would be

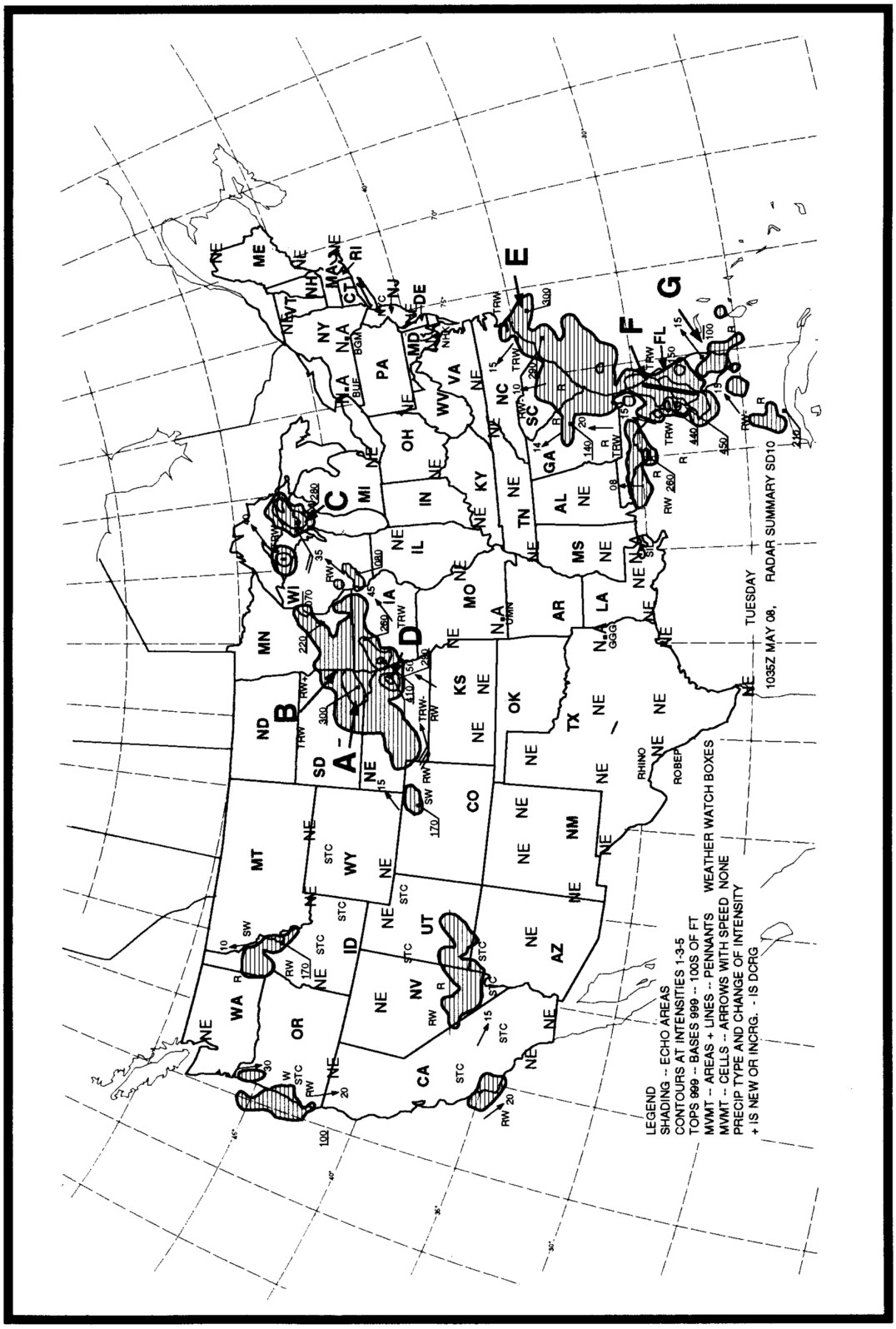
    A—the leading edge of the wings.
    B—on probes and antennas.
    C—the windshield.

48. On a WAAS-capable GPS approach, what is the significance of "LNAV+V" being displayed?
    A—Advisory vertical guidance is provided to the pilot that must be used in lieu of published step-down fixes on the instrument approach.
    B—Advisory vertical guidance is provided as an aid to the pilot during the descent to the runway.
    C—Approved vertical guidance to descend to the decision height is provided to the pilot.

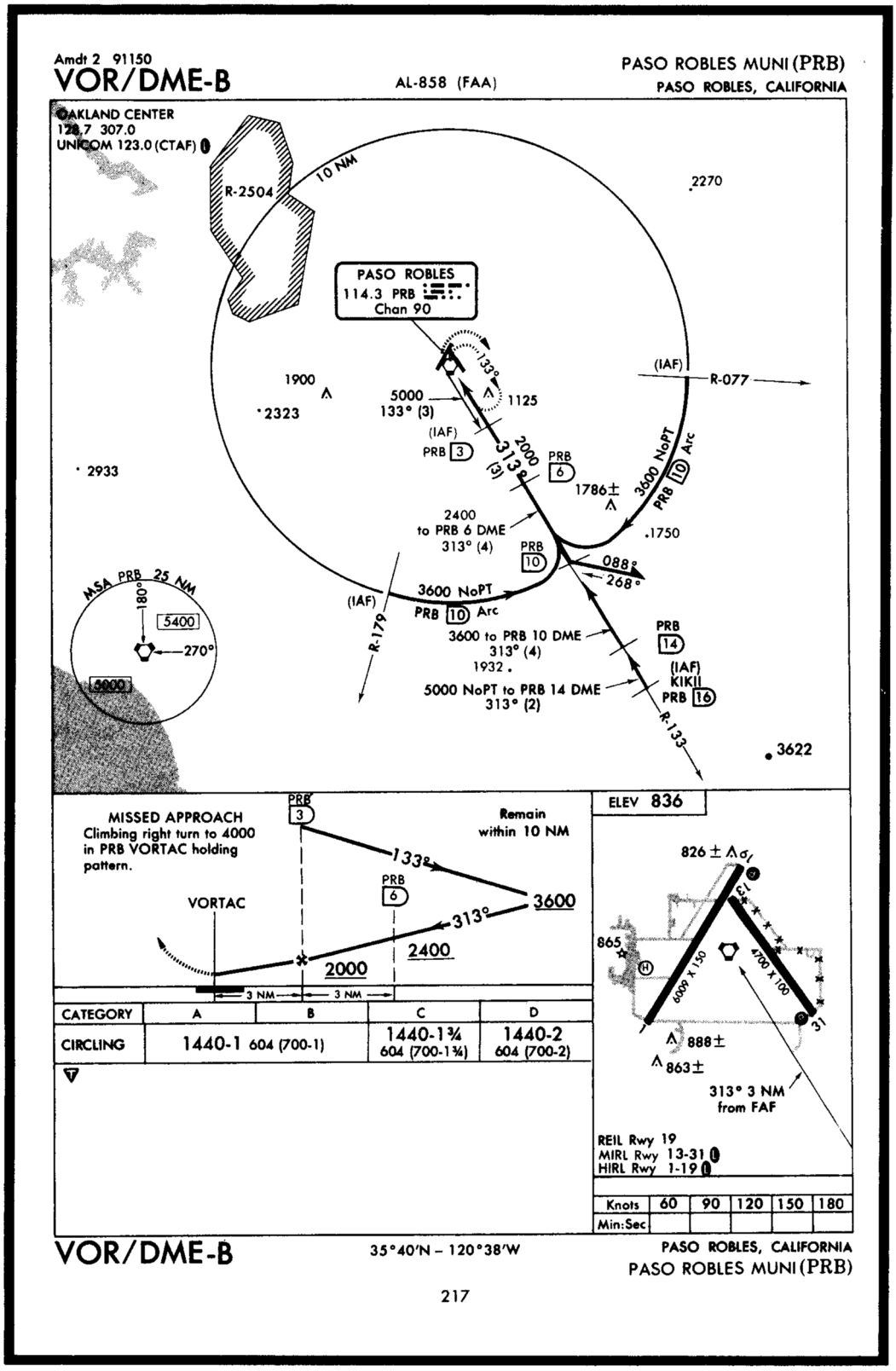
49. Automation in aircraft has proven
    A—to present new hazards in its limitations.
    B—that automation is basically flawless.
    C—effective in preventing accidents.

50. The lighter workloads associated with glass (digital) flight instrumentation
    A—are instrumental in decreasing flight crew fatigue.
    B—have proven to increase safety in operations.
    C—may lead to complacency by the flight crew.

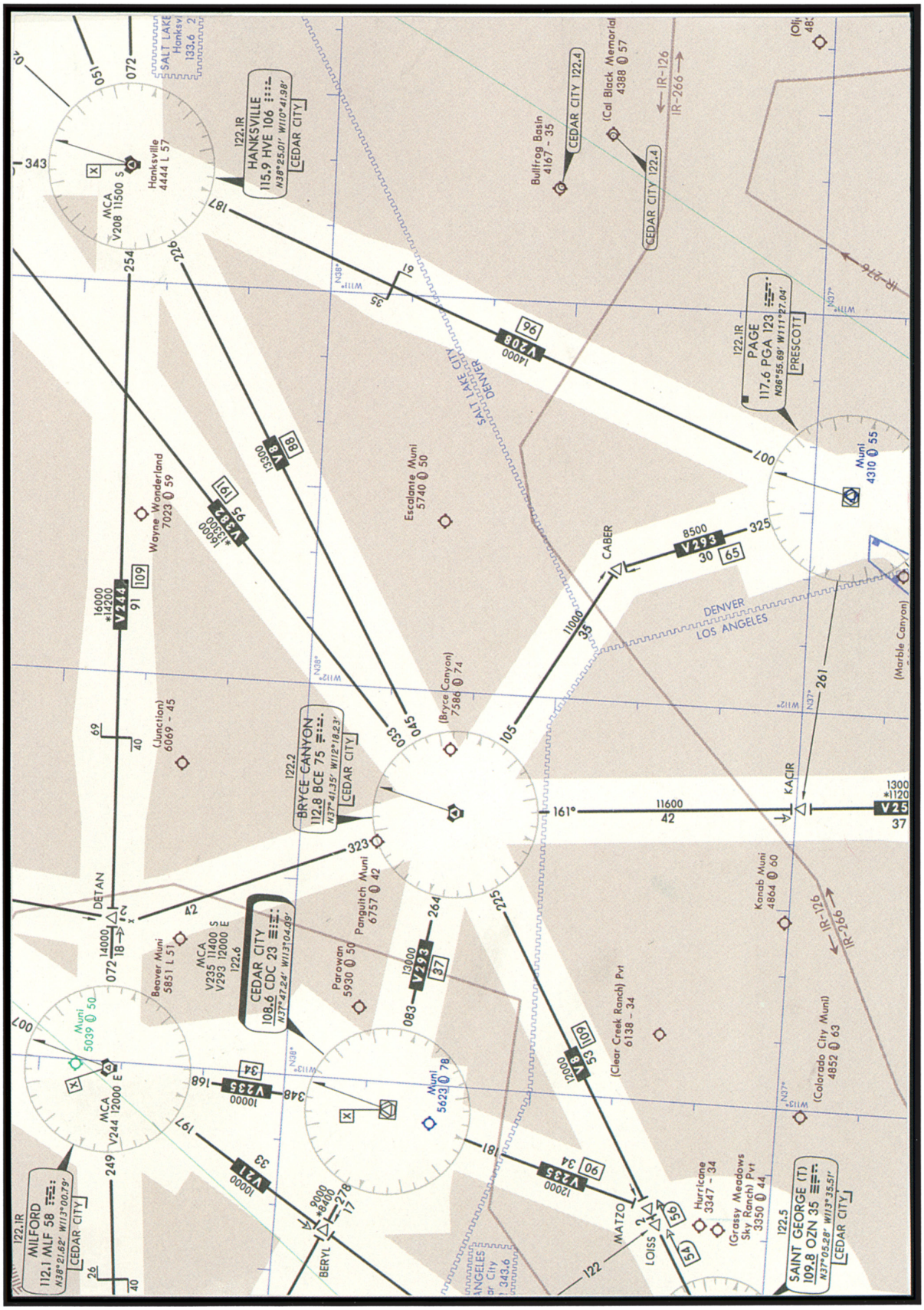
Stage Exam Figures



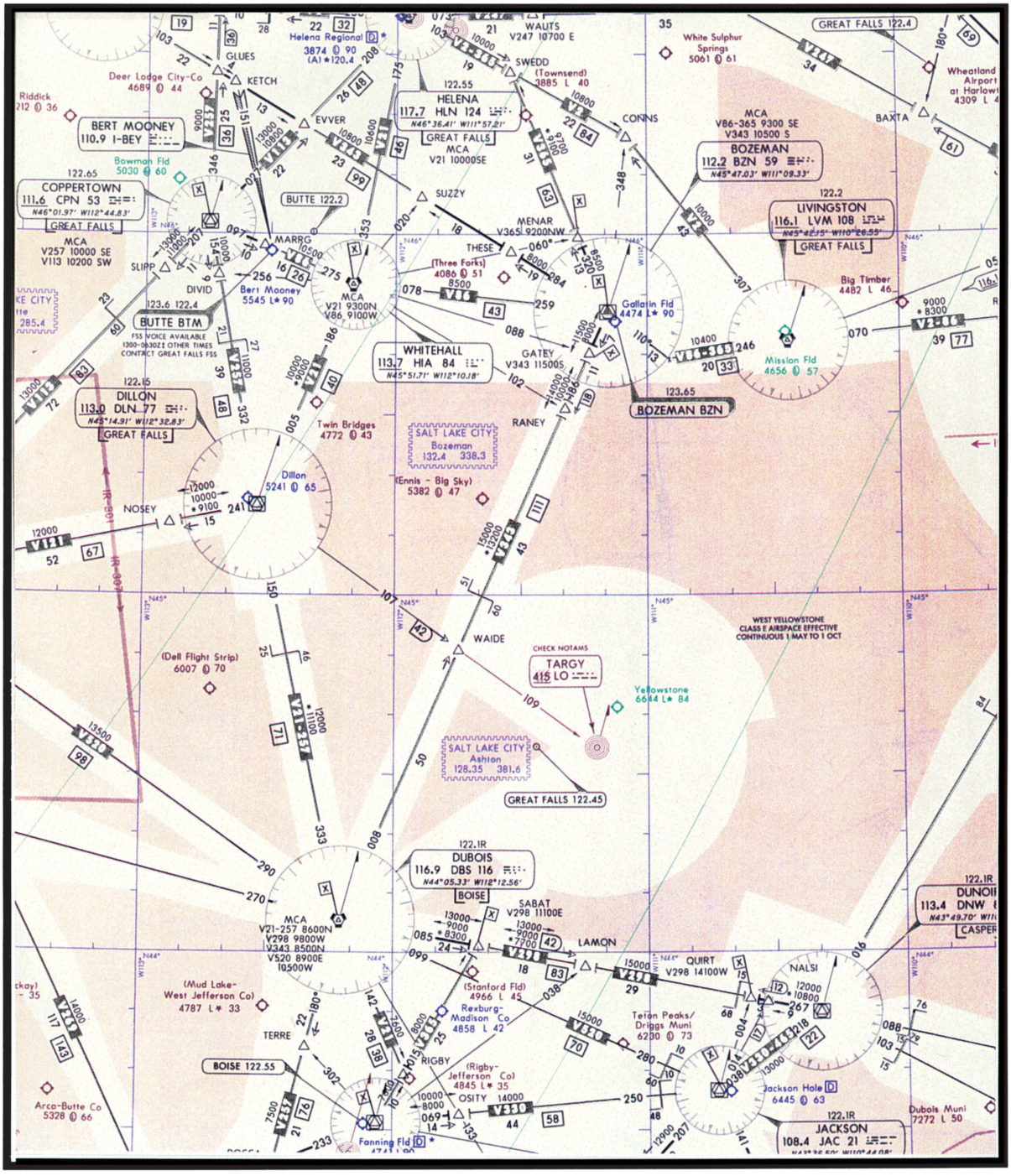
FAA Figure 8 — for Stage 1, Question #13, and Stage 2, Questions #2 and 3



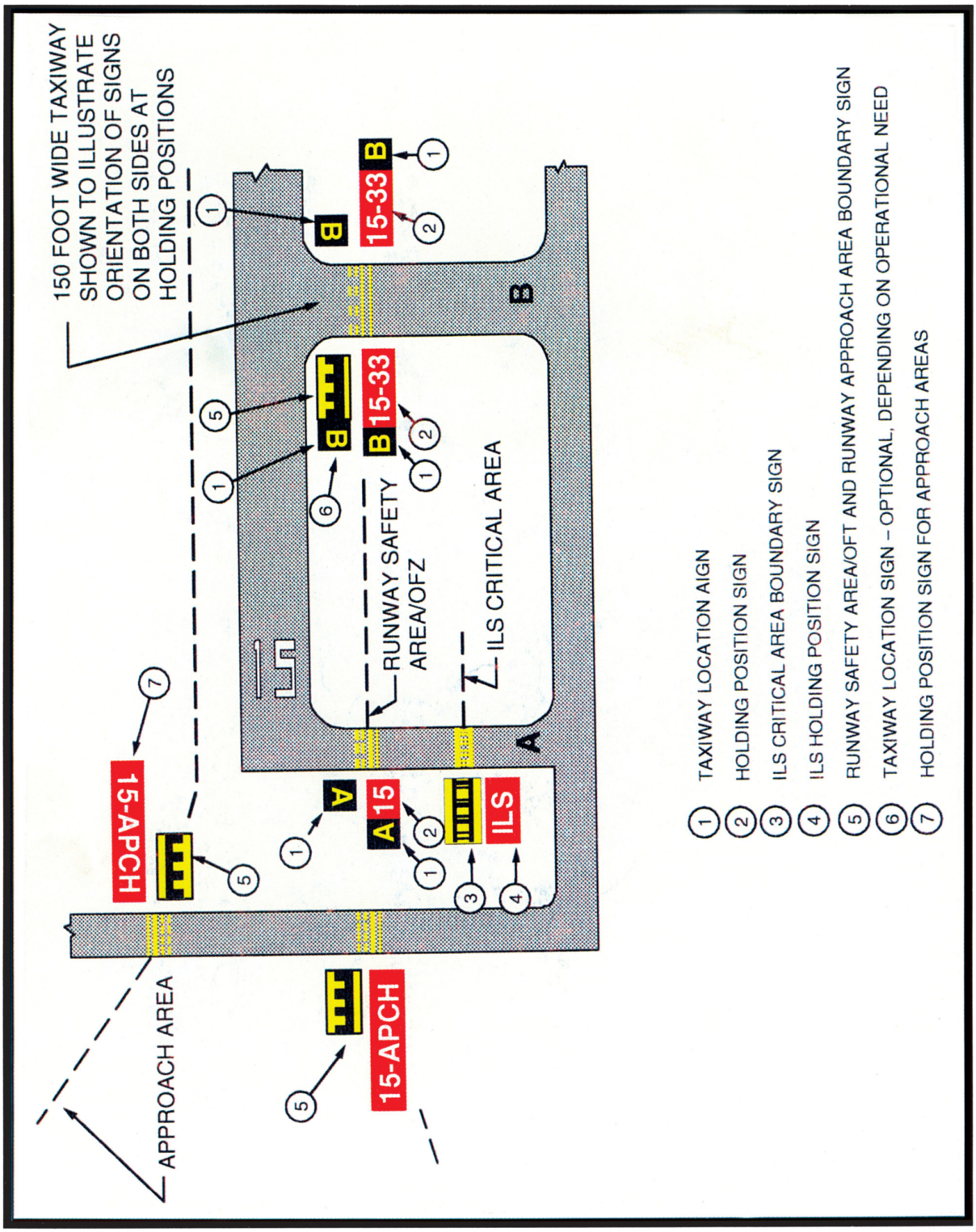
FAA Figure 55 — for Stage 1, Question #14



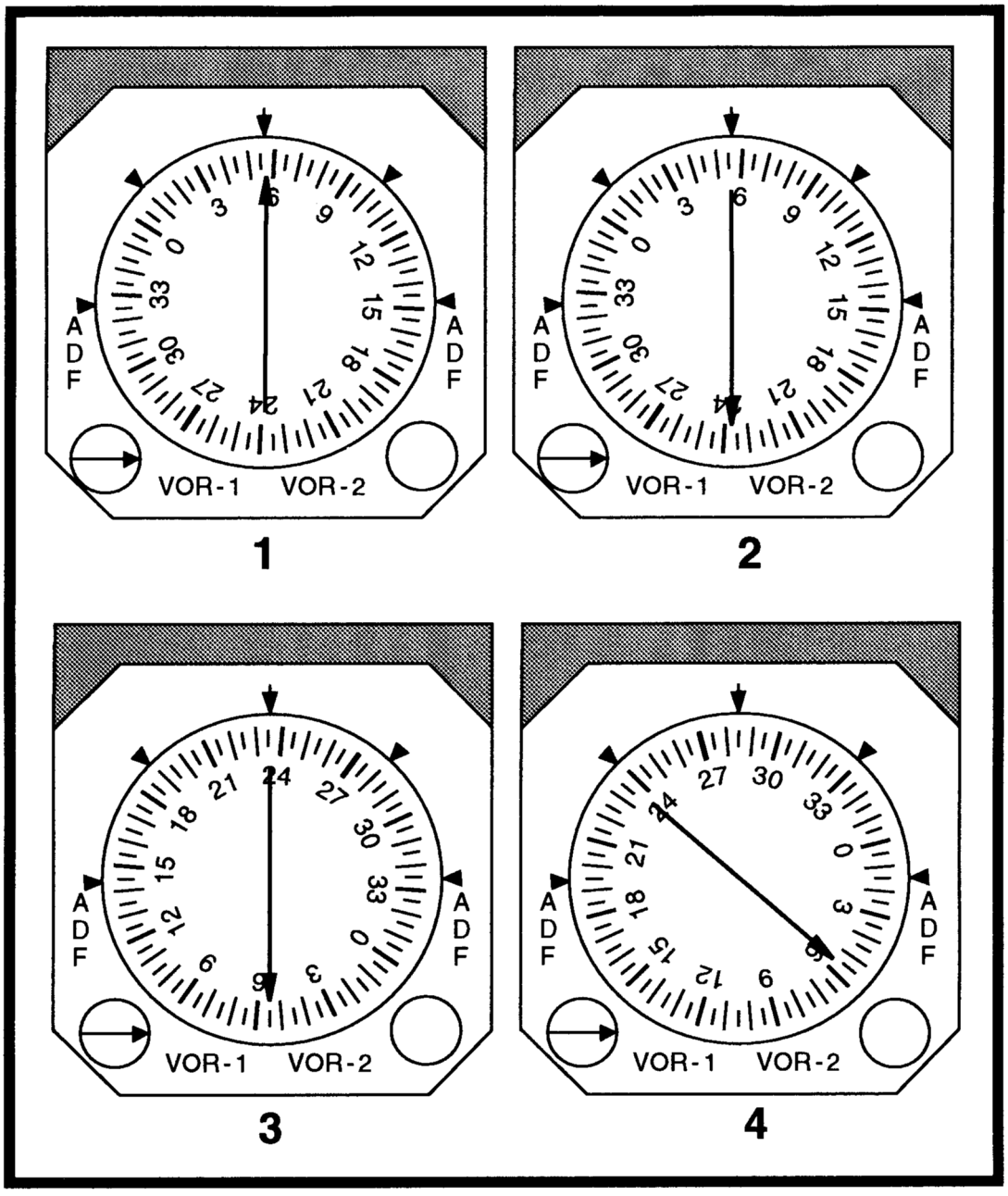
FAA Figure 89 — for Stage 1, Question #23



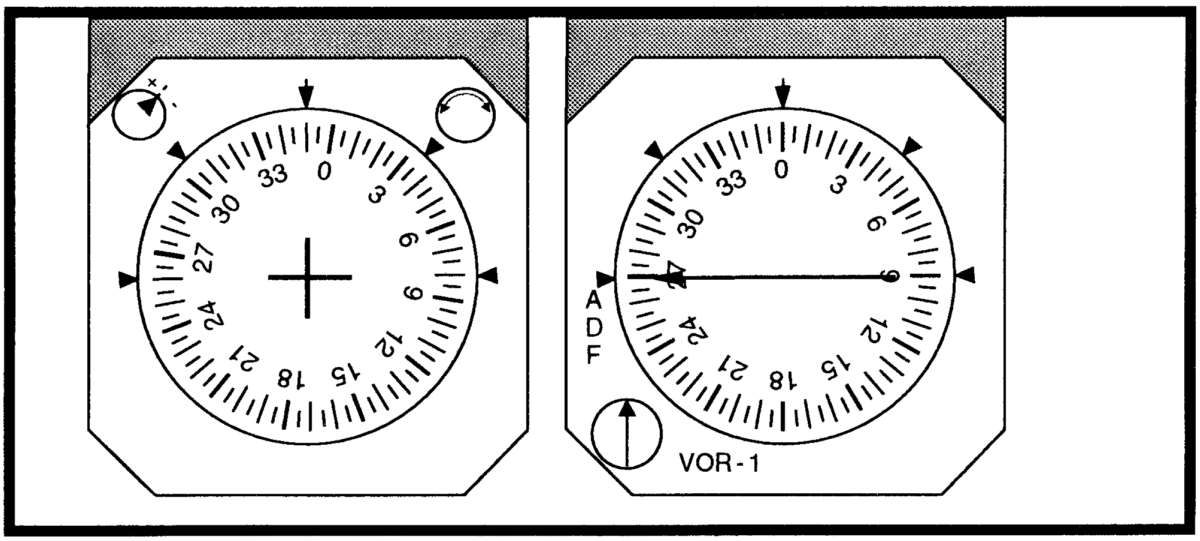
FAA Figure 91 — for Stage 1, Question #24, and Stage 2, Questions #8 and 9



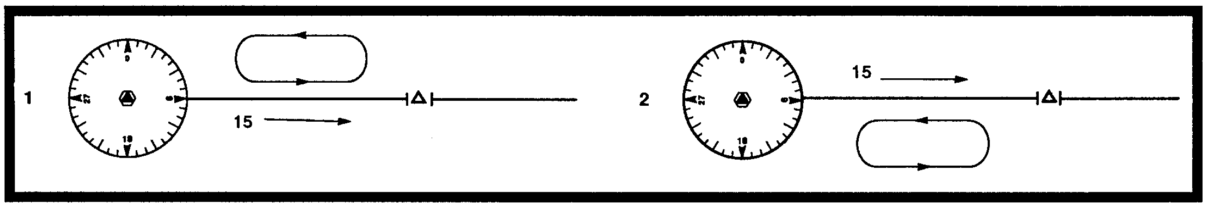
FAA Figure 94 — for Stage 1, Question #25



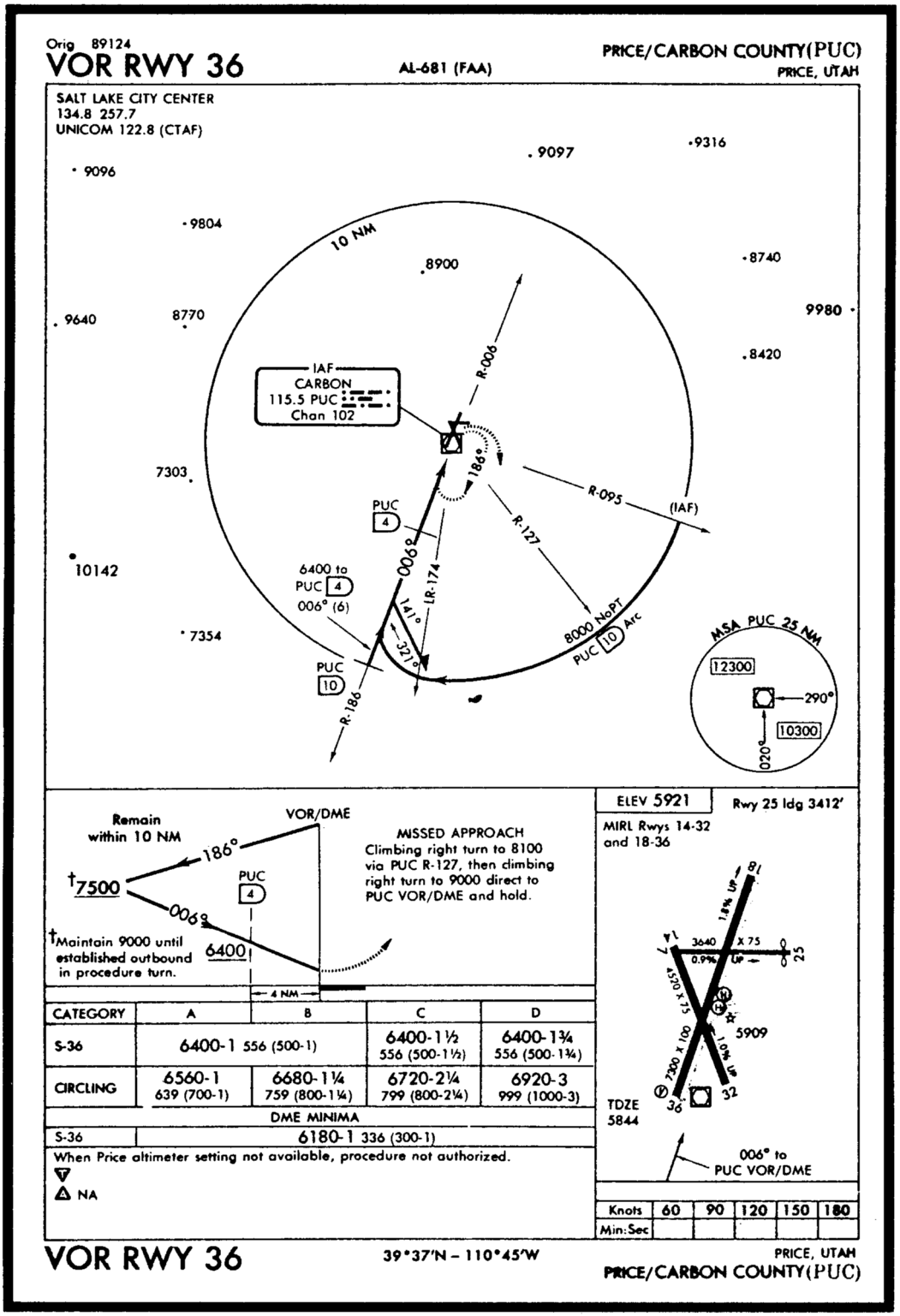
FAA Figure 100 — for Stage 2, Question #11



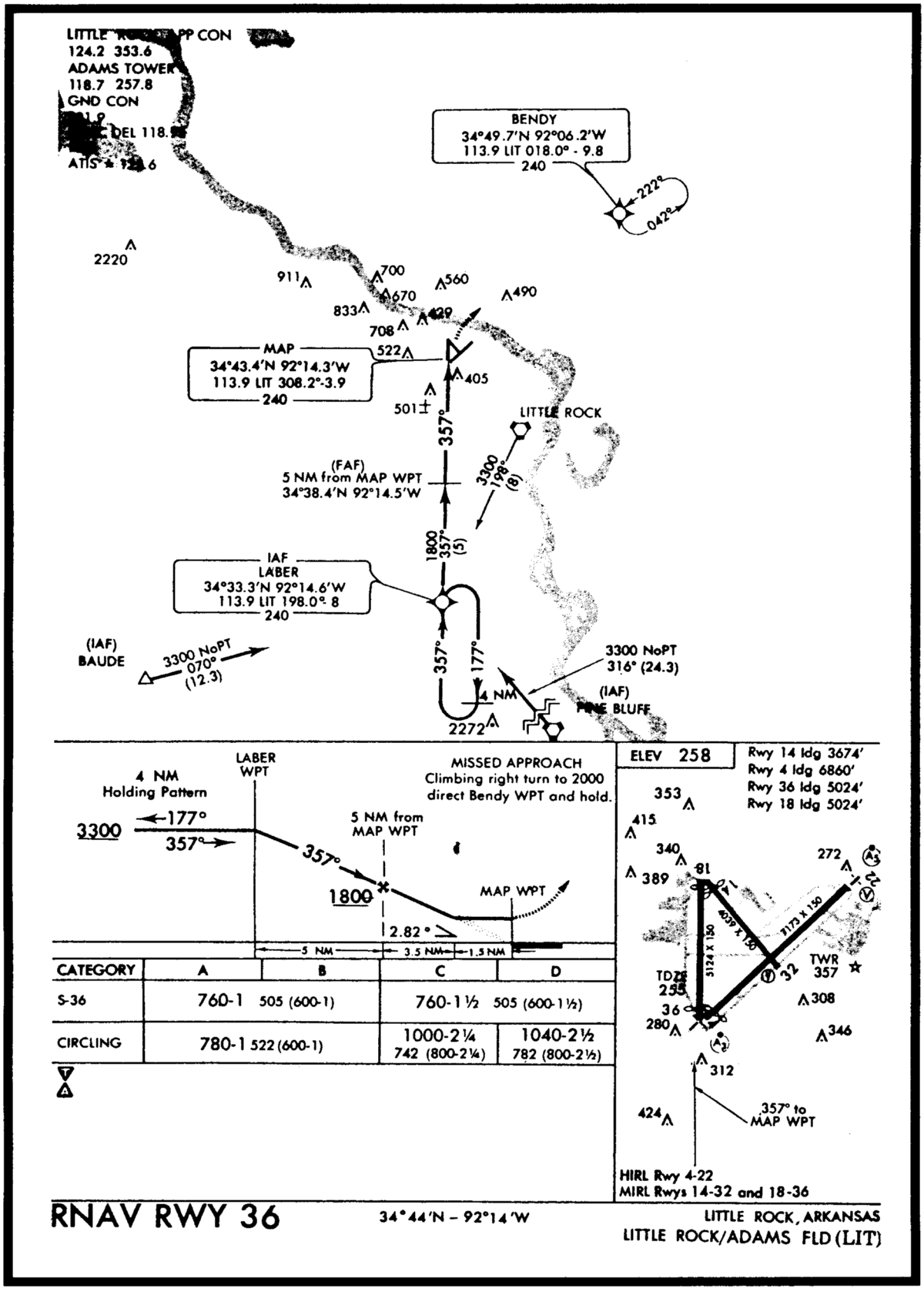
FAA Figure 101 — for Stage 2, Question #10



FAA Figure 115 — for Stage 1, Question #29

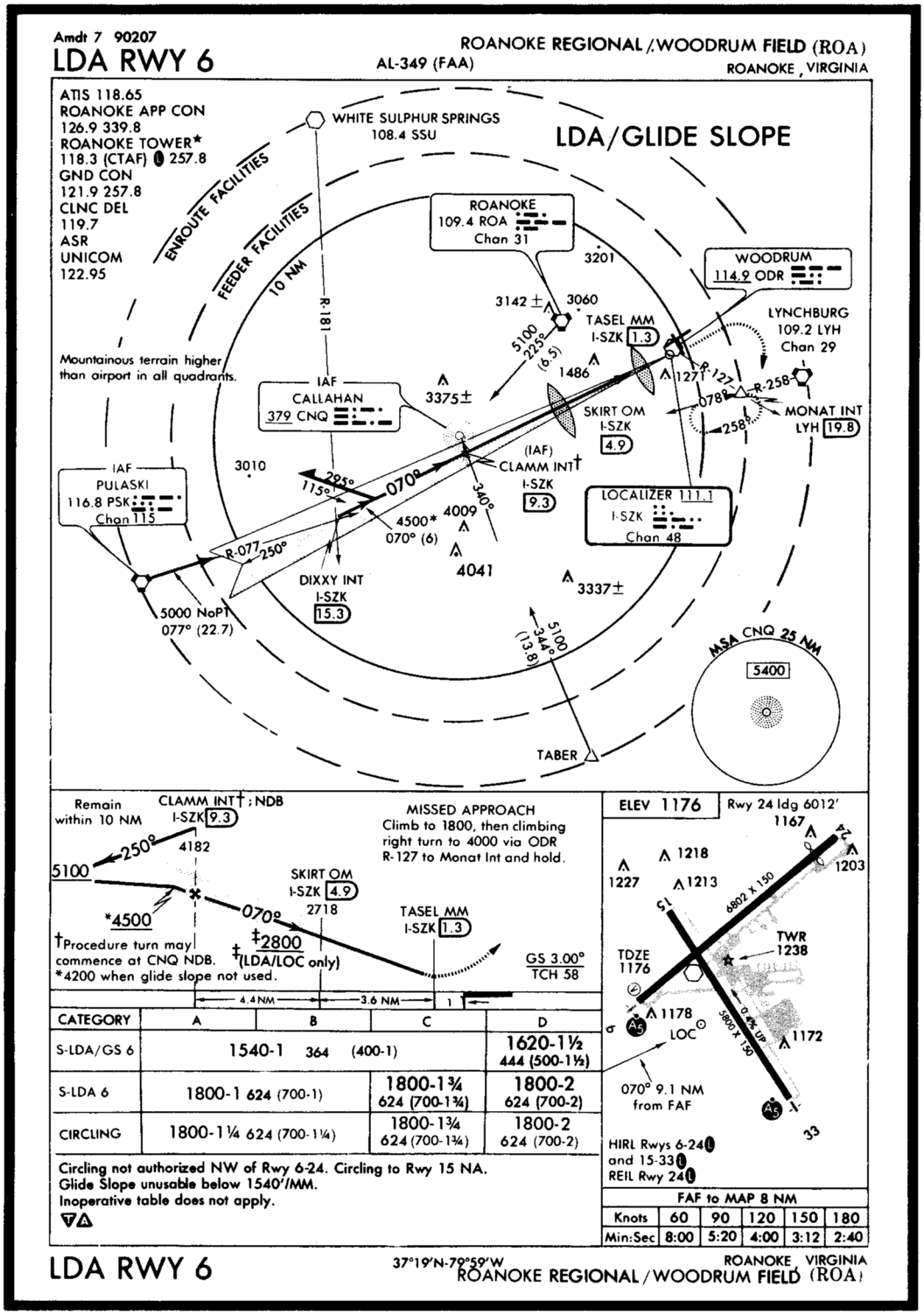


FAA Figure 128 — for Stage 2, Question #15

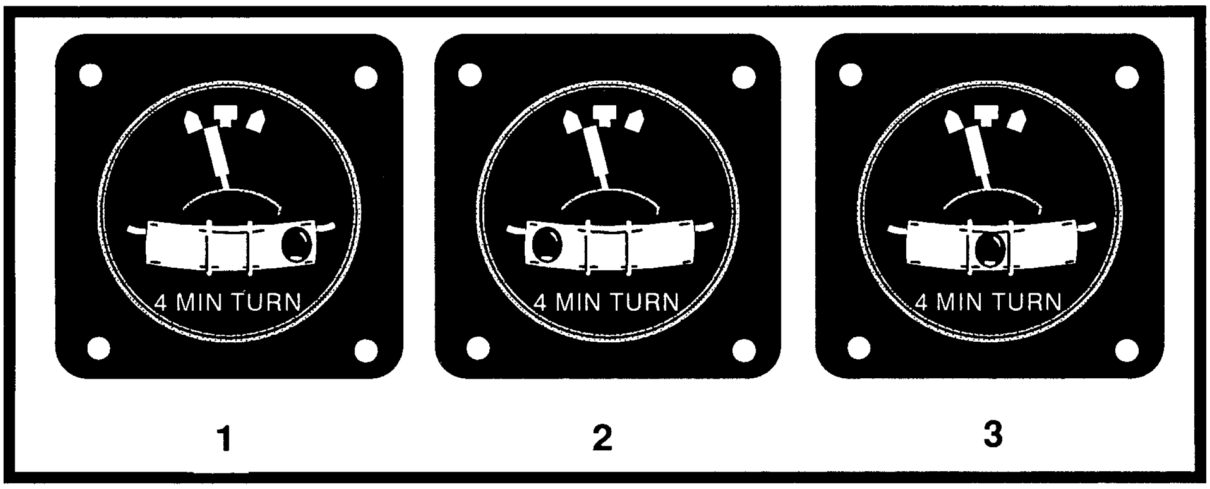


CATEGORY	A	B	C	D
S-36	760-1 505 (600-1)		760-1½ 505 (600-1½)	
CIRCLING	780-1 522 (600-1)		1000-2¼ 742 (800-2¼)	1040-2½ 782 (800-2½)

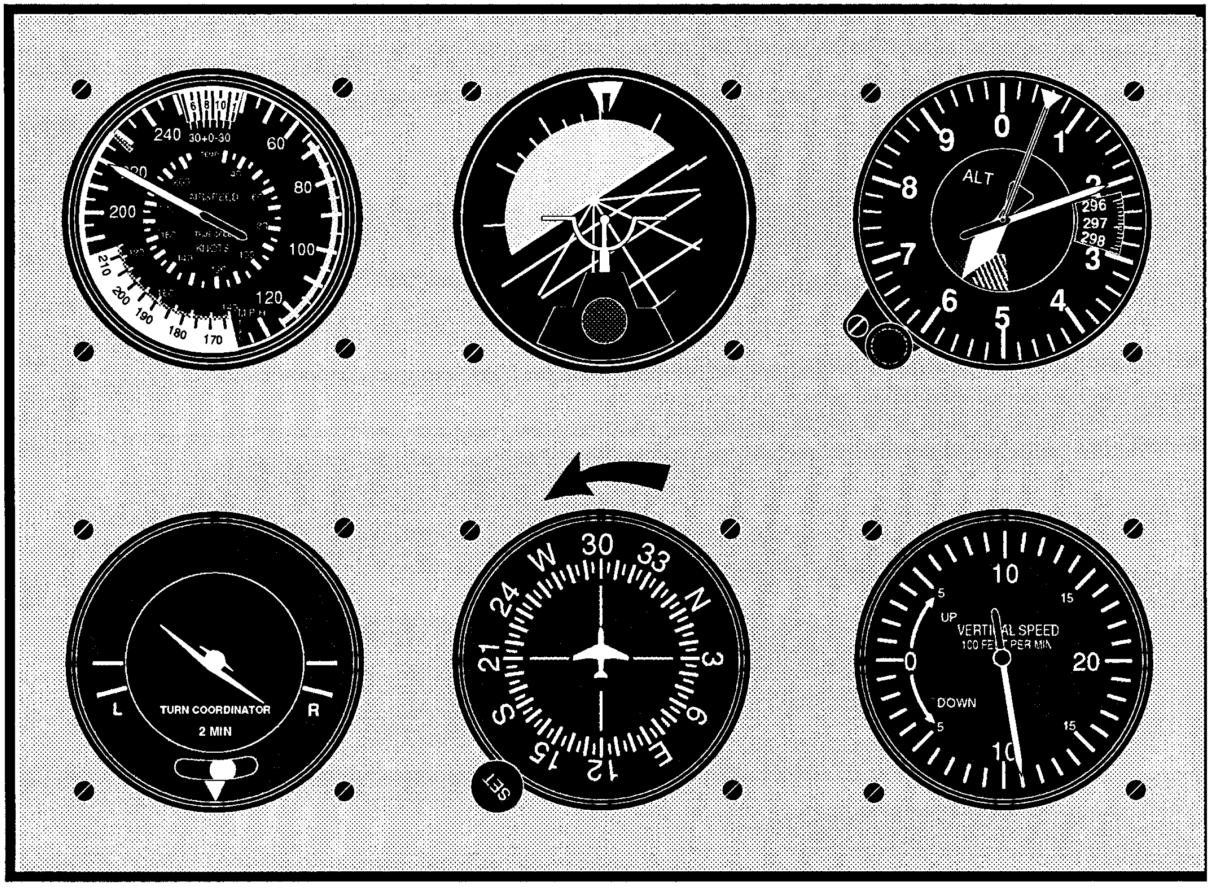
FAA Figure 129 — for Stage 2, Question #16



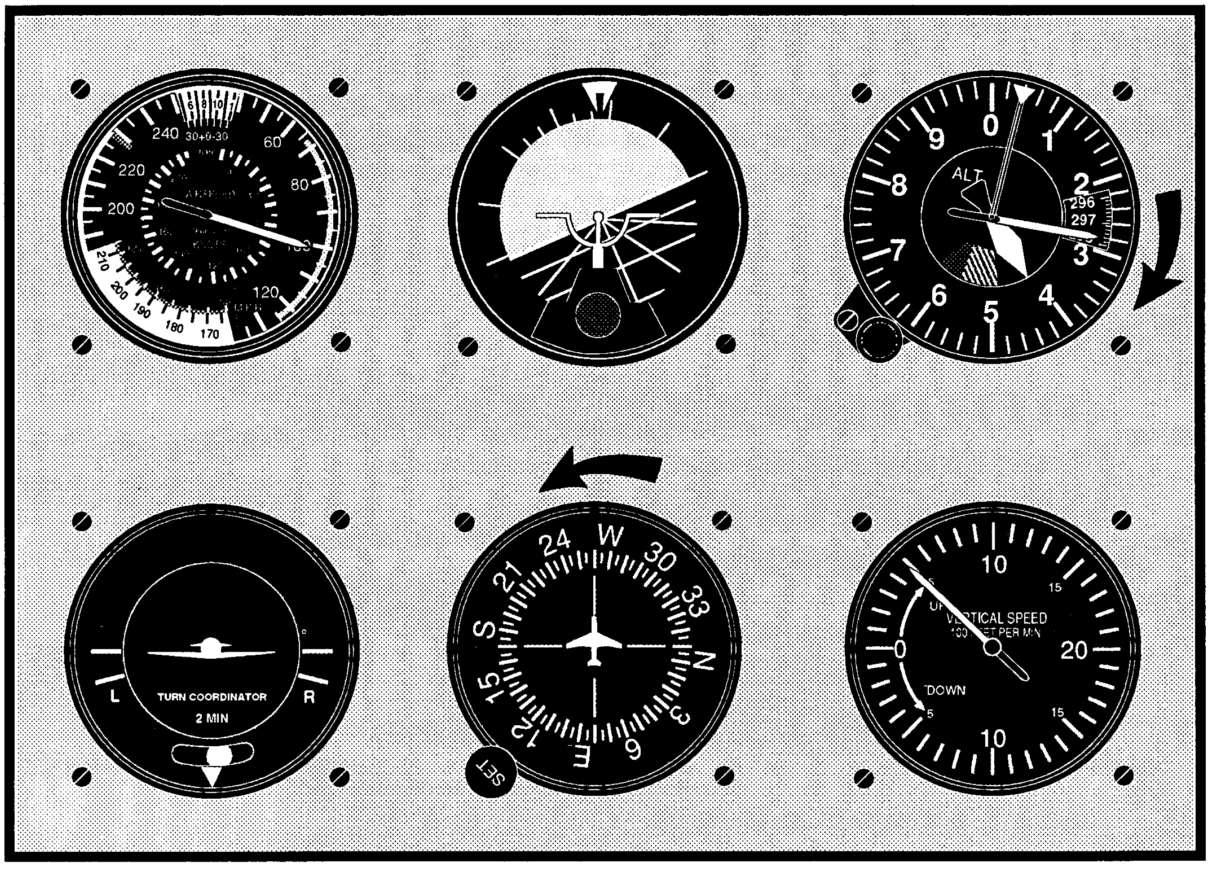
FAA Figure 130 — for Stage 1, Question #32



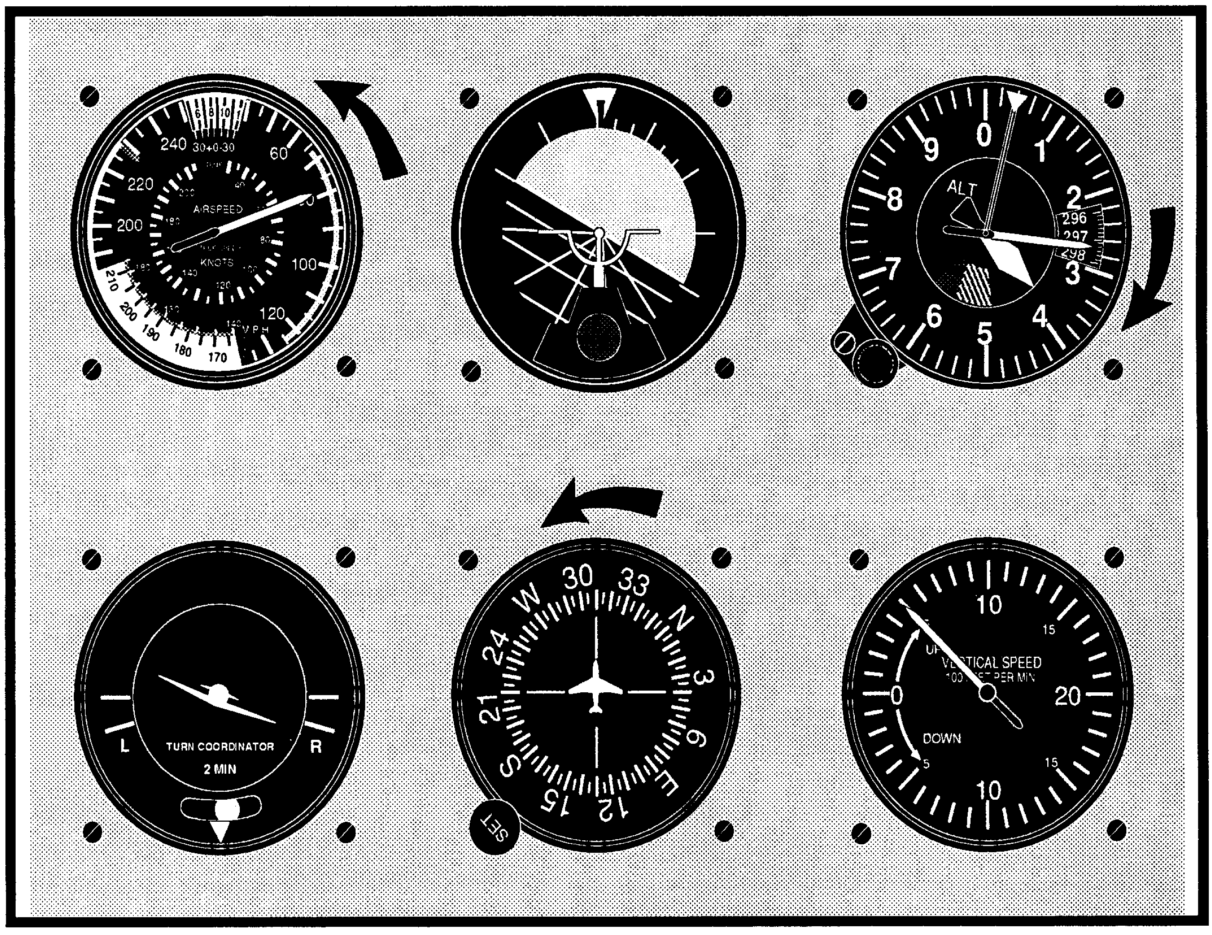
FAA Figure 144 — for Stage 1, Question #43



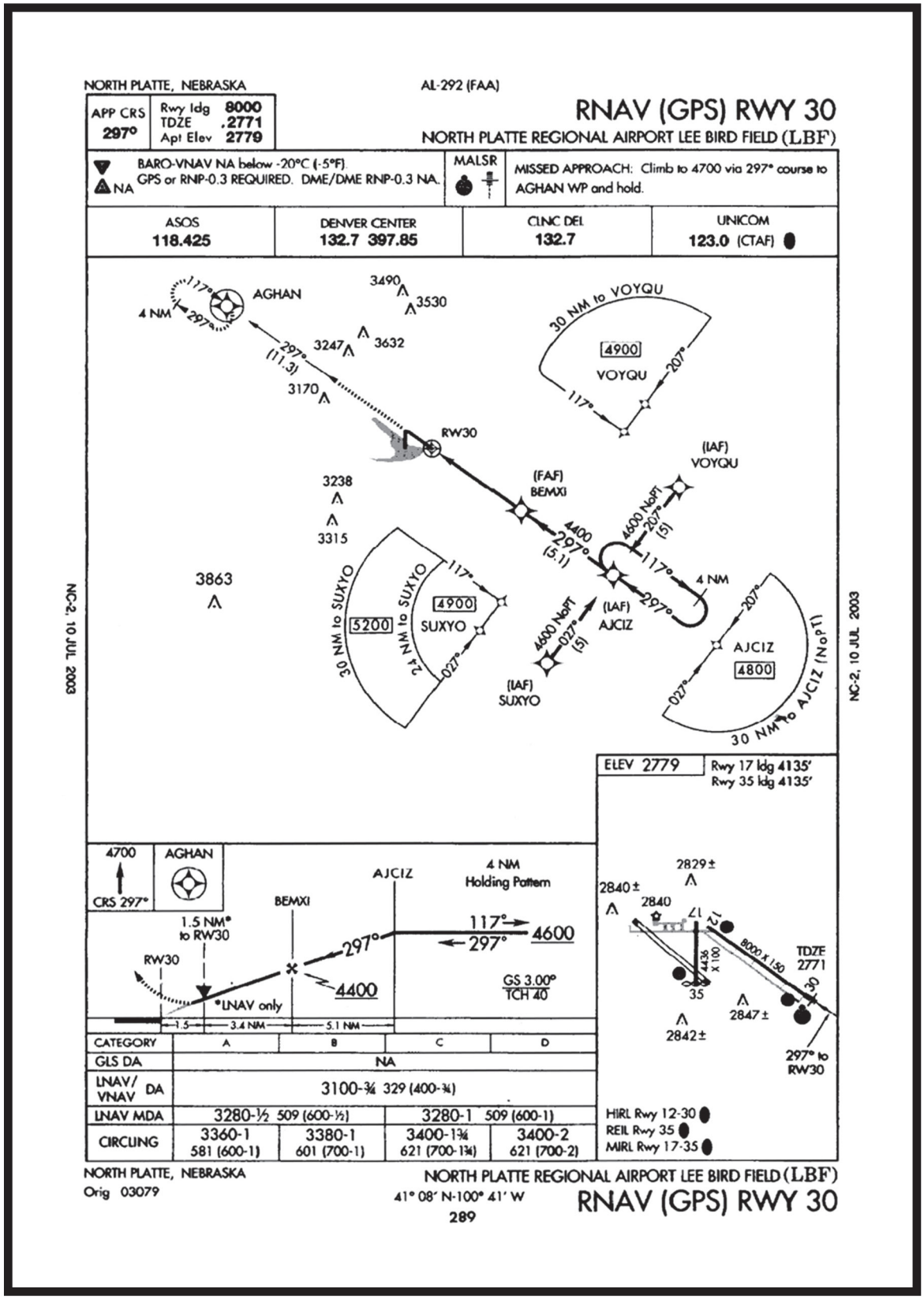
FAA Figure 145 — for Stage 2, Question #37



FAA Figure 148 — for Stage 2, Question #32



FAA Figure 150 — for Stage 2, Question #39



FAA Figure 152 — for Stage 2, Questions #44 and 46