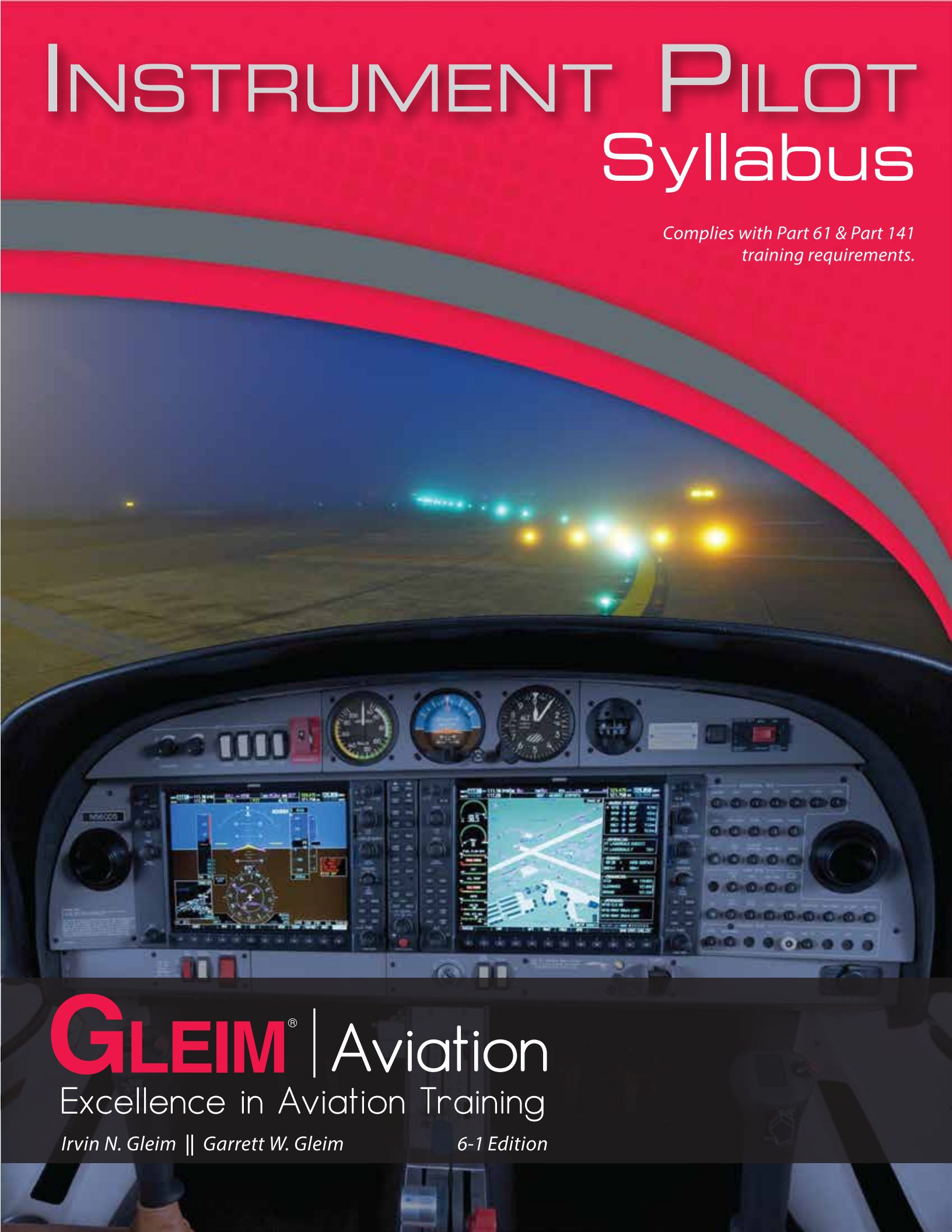


INSTRUMENT PILOT Syllabus

*Complies with Part 61 & Part 141
training requirements.*

The background of the cover is a photograph of a cockpit at night. The instrument panel is visible, featuring several analog gauges and two large digital displays showing flight information and maps. The runway ahead is illuminated by green and yellow lights, and the sky is dark. A red and grey curved graphic element is overlaid on the top right of the image.

GLEIM[®] | Aviation
Excellence in Aviation Training
Irvin N. Gleim || Garrett W. Gleim 6-1 Edition

GLEIM®

6-1
EDITION

INSTRUMENT PILOT Syllabus

by
Irvin N. Gleim, Ph.D., CFII
and
Garrett W. Gleim, CFII

ABOUT THE AUTHORS

Irvin N. Gleim earned his private pilot certificate in 1965 from the Institute of Aviation at the University of Illinois, where he subsequently received his Ph.D. He is a commercial pilot and flight instructor (instrument) with multi-engine and seaplane ratings and is a member of the Aircraft Owners and Pilots Association, American Bonanza Society, Civil Air Patrol, Experimental Aircraft Association, National Association of Flight Instructors, and Seaplane Pilots Association. Dr. Gleim is the author of flight maneuvers and practical test prep books for the sport, private, instrument, commercial, and flight instructor certificates/ratings and is the author of study guides for the sport, private/recreational, instrument, commercial, flight/ground instructor, fundamentals of instructing, airline transport pilot, and flight engineer FAA knowledge tests. Three additional pilot training books are *Pilot Handbook*, *Aviation Weather and Weather Services*, and *FAR/AIM*.

Dr. Gleim has also written articles for professional accounting and business law journals, and is the author of widely used review manuals for the CIA (Certified Internal Auditor) exam, the CMA (Certified Management Accountant) exam, the CPA (Certified Public Accountant) exam, and the EA (IRS Enrolled Agent) exam. He is Professor Emeritus, Fisher School of Accounting, University of Florida, and is a CFM, CIA, CMA, and CPA.

Garrett W. Gleim earned his private pilot certificate in 1997 in a Piper Super Cub. He is a commercial pilot (single- and multi-engine), ground instructor (advanced and instrument), and flight instructor (instrument and multi-engine), and is a member of the Aircraft Owners and Pilots Association and the National Association of Flight Instructors. Mr. Gleim is the author of study guides for the sport, private/recreational, instrument, commercial, flight/ground instructor, fundamentals of instructing, and airline transport pilot FAA knowledge tests. He received a Bachelor of Science in Economics from The Wharton School, University of Pennsylvania. Mr. Gleim is also a CPA (not in public practice).

Gleim Publications, Inc.

P.O. Box 12848 · University Station
Gainesville, Florida 32604

(352) 375-0772

(800) 87-GLEIM or (800) 874-5346

Fax: (352) 375-6940

Internet: www.GleimAviation.com

Email: admin@gleim.com

ISSN 1527-0920

ISBN 978-1-61854-062-1

This edition is copyright © 2016 by Gleim Publications, Inc. Portions of this manuscript are taken from previous editions copyright © 2004-2015 by Gleim Publications, Inc.

First Printing: November 2016

ALL RIGHTS RESERVED. No part of this material may be reproduced in any form whatsoever without express written permission from Gleim Publications, Inc. Reward is offered for information exposing violators. Contact copyright@gleim.com.

ACKNOWLEDGMENT

The instrument panel image on the cover is courtesy of Diamond Aircraft.

HELP!!

This is one book in a flight training series of seven books, listed below, designed specifically for persons who aspire to earn an instrument rating.

Instrument Pilot Syllabus

Instrument Pilot Flight Maneuvers and Practical Test Prep

Instrument Pilot ACS and Oral Exam Guide

Instrument Pilot FAA Knowledge Test

Aviation Weather and Weather Services

Pilot Handbook

FAR/AIM

Please submit any corrections and suggestions for subsequent editions to the authors at www.gleim.com/AviationQuestions.

Also, please bring this book to the attention of flight instructors, fixed-base operators, and others interested in flying. Wide distribution of this series of books and increased interest in flying depend on your assistance and good word. Thank you.

Environmental Statement -- This book is printed on high-quality, environmentally friendly groundwood paper, sourced from certified sustainable forests and produced either TCF (totally chlorine-free) or ECF (elementally chlorine-free). Our recyclable paper is more porous than coated paper, so we recommend marking it with a non-bleed-through highlighter.

NOTE: UPDATES

Visit our website or email update@gleim.com as described at the top right of this page for the latest updates and information on all of our products. Updates for this edition will be available until the next edition is published. To continue providing our customers with first-rate service, we request that questions about our materials be submitted at www.gleim.com/AviationQuestions. The appropriate staff member will give each question thorough consideration and a prompt response. Questions concerning orders, prices, shipments, or payments will be handled via telephone by our competent and courteous customer service staff.

For updates to the first printing of the sixth edition of
Instrument Pilot Syllabus

Go To: www.gleim.com/updates

Or: Email update@gleim.com with **IPSYL 6-1**
in the subject line. You will receive our current
update as a reply.

Updates are available until the next edition is published.

TABLE OF CONTENTS

	<u>Page</u>
Preface	iv
Introduction	1
Airplane Worksheet	8
Local Airport(s) Worksheet	9
Instrument Rating Syllabus Lesson Sequence and Times	10
Instrument Rating Ground Training Syllabus Airplane Single-Engine Land	15
Instrument Rating Flight Training Syllabus Airplane Single-Engine Land	37
Appendix A: Knowledge Tests and Figures	73
Stage One Knowledge Test	74
Stage Two Knowledge Test	76
Stage Three Knowledge Test	78
End-of-Course Knowledge Test	80
Figures for Knowledge Tests	85
Appendix B: Use of a Flight Simulation Training Device or an Aviation Training Device	129
Certificates	
Enrollment	133
Graduation	135
FAA MedXPress Form 8500-8.....	137

IF FOUND, PLEASE CONTACT

Pilot Name _____

Address _____

Telephone # _____

Email _____

PREFACE

Thank you for choosing GLEIM. Our training materials (books, software, audios, and online) are intuitively appealing and thus very effective in transferring knowledge to you. The Gleim system saves you time, money, and frustration vs. other aviation training programs.

This syllabus will facilitate your studies and training for your instrument rating.

1. Please read the following Introduction carefully.
2. The “Lesson Sequence and Times” section shows ground lessons being completed as you complete flight lessons. We encourage you to work ahead in your ground lessons and begin them (and even complete them) prior to beginning your flight training.
3. The OBJECTIVE is to develop “ACS level” proficiency as quickly as possible. “ACS level” means that you can perform at the level required by the FAA’s Airman Certification Standards (ACS).
4. Homework consists of reading and/or studying your Gleim ***Instrument Pilot FAA Knowledge Test*** book, Gleim ***Instrument Pilot Flight Maneuvers and Practical Test Prep*** book, Gleim ***Pilot Handbook***, Gleim ***Aviation Weather and Weather Services*** book, Gleim ***FAR/AIM*** book, and the Pilot’s Operating Handbook or Operating Limitations for your airplane. Each flight lesson also directs you to review topics and material studied for previous lessons.
 - a. The Instrument Pilot Kit does not contain ***Pilot Handbook*** or ***FAR/AIM*** since these books were included in the Gleim Private Pilot Kit. If you do not have them, please order your copies today.

Why is the GLEIM SYSTEM different? It focuses on successful completion, as quickly and as easily as possible. The requirements for earning your instrument rating are listed beginning on page 2. This syllabus facilitates your flight training so you achieve an “ACS level” of proficiency on the 20 required FAA “tasks” as quickly as possible for airplane single-engine land!

GO FOR IT! Start studying for your FAA instrument rating knowledge test today. Refer to Study Units 1 through 11 in ***Instrument Pilot FAA Knowledge Test*** and associated textbooks. Start studying for your FAA practical test by reading Study Unit 3 (of Part I) in ***Instrument Pilot Flight Maneuvers and Practical Test Prep***.

We have an easy-to-follow and easy-to-complete study system. From the very start, we want you to focus on success. This means answering over 80% of the FAA knowledge test questions correctly AND being able to explain and demonstrate the 20 required FAA practical test tasks to your CFII at “ACS level” proficiency for airplane single-engine land.

Enjoy Flying Safely!

Irvin N. Gleim
Garrett W. Gleim

November 2016

INTRODUCTION

<i>What Else Do You Need?</i>	1
<i>Requirements for an Instrument Rating</i>	2
<i>How to Proceed</i>	3
<i>Part 141 vs. Part 61 Schools</i>	3
<i>Part 141 Student Information</i>	4
<i>Enrollment Prerequisites</i>	4
<i>Graduation Requirements</i>	4
<i>Stage Checks</i>	4
<i>Credit for Previous Training</i>	4
<i>Gleim Instrument Pilot Syllabus</i>	5
<i>Ground Training Syllabus</i>	5
<i>Flight Training Syllabus</i>	6
<i>Use of a Flight Simulation Training Device (FSTD) or an Aviation Training Device (ATD)</i> ..	7
<i>Airplane and Local Airport(s) Worksheets</i>	7
<i>Instrument Rating Syllabus Lesson Sequence and Times</i>	10

This syllabus is a step-by-step lesson plan for your instrument rating training. It is intended to be used in conjunction with the following six Gleim books:

Instrument Pilot FAA Knowledge Test
Instrument Pilot Flight Maneuvers and Practical Test Prep
Instrument Pilot ACS and Oral Exam Guide
Aviation Weather and Weather Services
Pilot Handbook
FAR/AIM

NOTE: ***Pilot Handbook*** and ***FAR/AIM*** are not included in the Instrument Pilot Kit since these books were included in the Gleim Private Pilot Kit. They are available at your local FBO, flight school, bookstore, etc., or directly from Gleim at (800) 874-5346 or www.GleimAviation.com.

Your flight instructor (or flight school) will retain a copy of each flight lesson page in this book (and/or make use of the Gleim Instrument Pilot Training Record) as you complete the flight lesson. If a copier is not available at the conclusion of your flight lesson, bring a copy of the completed flight lesson page to the next flight lesson.

WHAT ELSE DO YOU NEED?

If you purchased this syllabus as part of the Gleim **Instrument Pilot Kit**, you will need IFR low en route and instrument approach charts. Sources for charts include

1. **Aeronautical Information Services.** The FAA's Aeronautical Information Services is the aeronautical charting authority for the development, publication, and dissemination of aeronautical charts. Printed FAA IFR charts may be purchased through online vendors as well as some fixed-base operators (FBO) at a local airport.
2. **Jeppesen Sanderson, Inc. (JEPP),** is a private competitor to the FAA's chart publications. It is the most widely used chart service, and the graphic presentation of its charts differs from that of FAA charts in a number of respects. However, the information is furnished by the FAA.

For more information on the basic IFR charts and how to order the charts, see Study Unit 4, "IFR Aeronautical Charts," in Part II of the ***Instrument Pilot Flight Maneuvers and Practical Test Prep*** book.

Additionally, you will need to purchase a copy of the Pilot's Operating Handbook (POH) (sometimes called an Information Manual) for the make and model of your training airplane. Alternatively, you may make a photocopy if the POH is not available for purchase.

REQUIREMENTS FOR AN INSTRUMENT RATING

You must meet a number of requirements to earn your instrument rating. The final step is your FAA practical test, which will be conducted by an evaluator (who could be an FAA-designated pilot examiner or an FAA inspector) unless your Part 141 pilot school has examining authority to conduct the practical test. Your practical test will consist of an approximately 1- to 2-hour oral exam followed by a 1- to 2-hour flight test. You will be well prepared for your practical test by your CFII and your Gleim pilot training materials. In addition, you must meet the following requirements:

1. Hold at least a private pilot certificate with an airplane category rating and single-engine class rating.
 - a. Part 61 students must have logged 50 hours of cross-country pilot-in-command time. This is not required of Part 141 students.
2. Be able to read, write, and converse fluently in English (certificates with operating limitations may be available for medically related deficiencies).
3. Hold a current FAA medical certificate.
 - a. Your medical exam will be conducted by an FAA-designated aviation medical examiner (AME).
 - b. Ask your CFII or call your local flight school for the names and telephone numbers of the AMEs in your area, or visit www.gleim.com/aviation/amesearch.php for a listing of AMEs by state and city.
 - c. Use the FAA MedXPress system to create an account and complete the initial portion of the application before you meet with your AME.
 - 1) Access the system at <http://medxpress.faa.gov>.
 - 2) A reproduction of FAA Form 8500-8, *Application for Airman Medical Certificate*, is available on pages 137 through 139 of this syllabus to assist you in using the MedXPress system.
4. Pass your FAA instrument rating airman knowledge test, which consists of 60 multiple-choice questions administered at an FAA-designated computer testing center. Everything you need to prepare for your FAA instrument rating (airplane) airman knowledge test is in your Gleim ***Instrument Pilot FAA Knowledge Test, Instrument Pilot Flight Maneuvers and Practical Test Prep, FAR/AIM, Pilot Handbook, and Aviation Weather and Weather Services*** books. The Gleim **FAA Test Prep Online** will facilitate your study. (To find out exactly what to expect from the computer testing center of your choice, use the **FAA Test Prep Online's** convenient vendor emulation testing format.) Use the Gleim **Online Ground School** for convenient, complete knowledge test study from any computer with Internet access.
 - a. We have estimated 30 hours to completely prepare for your instrument rating airman knowledge test. See "Instrument Rating Syllabus Lesson Sequence and Times" on page 10.
 - b. The further you study (not read) to prepare for your FAA instrument rating airman knowledge test before you commence your flight lessons, the better!
 - 1) Under Part 141, you should be enrolled in the school's instrument rating course before beginning your study program.
5. Undertake flight training as described in Lessons 1 through 29. Many of the lessons may require more than one flight to complete. We also have provided space for your instructor to record extra flights within each lesson as needed to make you comfortable and proficient.
 - a. The importance of home study certainly applies to piloting. Do NOT show up at the airport expecting to be spoon-fed by your CFII. If you do, your flight training will be slow going and frustrating.

- b. It's fun to be successful! Be overly prepared before you get to the airport for each flight lesson.



The KEY TO SUCCESS in your flight training, which also minimizes cost and frustration, is your study and preparation at home before flying with your flight instructor. The more you know about flying, flight training, and each flight lesson, the better you will do.

6. PASS your FAA practical test. See Study Unit 3 (in Part I) in ***Instrument Pilot Flight Maneuvers and Practical Test Prep***.
7. For additional detail regarding FAA instrument rating requirements, see the Introduction in the ***Instrument Pilot FAA Knowledge Test*** book or pages 2 and 3 in the ***Instrument Pilot Flight Maneuvers and Practical Test Prep*** book.

HOW TO PROCEED

1. If you are reading someone else's copy of ***Instrument Pilot Syllabus***, obtain a Gleim **Deluxe Instrument Pilot Kit** from your FBO/flight school/bookstore, or for publisher-direct service, visit www.GleimAviation.com or call (800) 874-5346.

The **Deluxe Instrument Pilot Kit** contains **Online Ground School**, **FAA Test Prep Online**, **Audio Review** (optional download), plus study and reference books, including ***Instrument Pilot FAA Knowledge Test***, ***Instrument Pilot Flight Maneuvers and Practical Test Prep***, ***Instrument Pilot ACS and Oral Exam Guide***, ***Aviation Weather and Weather Services***, a **Training Record**, and this ***Instrument Pilot Syllabus***.
2. Read this Introduction (13 pages).
3. Obtain a current and valid medical certificate (if necessary).
4. Begin preparing for your FAA instrument rating airman knowledge test by using your Gleim books, **FAA Test Prep Online**, and/or **Online Ground School**. See your ground training syllabus.
5. Select a CFII and/or flight school. See Study Unit 1 in ***Instrument Pilot Flight Maneuvers and Practical Test Prep***.
6. Begin your flight training, scheduling at least two lessons a week. Prepare thoroughly at home for each flight lesson. Use the flight training syllabus in this book.

PART 141 VS. PART 61 SCHOOLS

Title 14 of the Code of Federal Regulations (14 CFR), which is commonly referred to as the FARs by pilots, lists the requirements to obtain your instrument rating. Pilot (or flight) schools can conduct your training by following either 14 CFR Part 141 or 14 CFR Part 61.

An eligible pilot school may be issued a Part 141 pilot school certificate by the FAA after completion of an application process. Part 141 pilot schools are more regulated than a Part 61 pilot school. Additionally, a Part 141 pilot school is required to have its facilities and airplanes inspected and the ground and flight training syllabi approved by the FAA.

The majority of pilot schools, and flight instructors not associated with a Part 141 pilot school, provide the required training specified under Part 61. Part 61 pilot schools do not require FAA approval. Part 61 requires 40 hours instrument time and 50 hours of cross-country flight time as pilot in command (PIC).

The major difference between a Part 141 and a Part 61 pilot school is that Part 141 requires an FAA approval and 35 hours of instrument time. Part 141 does not have a minimum cross-country experience requirement.

The Gleim syllabus has been reviewed by the FAA in Washington, D.C., and found to adequately meet the requirements of a syllabus under Part 141 or Part 61, as appropriate. However, final approval of a syllabus for use under Part 141 must come from the local FAA Flight Standards District Office (FSDO). Thus, the Gleim **Instrument Pilot Syllabus** can be used by any Part 141 school with minimum effort. We suggest that the school write a letter to its FAA inspector advising the FAA of the school's intent and the names of students who are going to be trained under this Gleim syllabus.

If a Part 141 pilot school cannot or will not use this syllabus, consider finding another Part 141 or Part 61 school for your training, OR please call (800) 874-5346 if you have questions or problems.

PART 141 STUDENT INFORMATION

Enrollment Prerequisites

You must hold at least a private pilot certificate, with an airplane category and single-engine land rating, prior to enrolling in the flight portion of the instrument rating course. Have your CFI make a photocopy of the enrollment certificate on page 133 of this syllabus and complete it during your first lesson.

Graduation Requirements

You must complete the training specified in this syllabus, with a minimum of 30 hours of ground training in the specified aeronautical knowledge areas and a minimum of 35 hours of flight training. These requirements are reflected in the Gleim ground and flight training syllabus. At the completion of your training, your CFI should photocopy and complete the graduation certificate on page 135 of this syllabus.

Stage Checks

You must score a minimum of 80% on the knowledge test at the completion of each stage in the ground training syllabus and on the comprehensive end-of-course knowledge test at the conclusion of the ground training.

You must satisfactorily complete a stage check at the completion of each stage of the flight training syllabus, as well as a comprehensive end-of-course check when all flight training is complete.

Credit for Previous Training

You may be given credit towards this instrument rating course for previous pilot experience and knowledge [Sec. 141.77(c)]:

1. If the credit is based on a Part 141 training course, the credit may be 50% of the requirements for this course.
2. If the credit is based on a Part 61 course, the credit cannot exceed 25% of the requirements for this course.

The receiving school will determine the amount of course credit to be given, based on a proficiency test, a knowledge test, or both.

GLEIM INSTRUMENT PILOT SYLLABUS

This syllabus consists of a ground training syllabus and a flight training syllabus. The ground and flight training may be done together as an integrated course of instruction, or each may be done separately. However, if a FSTD (Flight Simulation Training Device) or an ATD (Aviation Training Device) is used, the ground and flight instruction must be accomplished as an integrated course of instruction. If done separately, the ground syllabus may be conducted as a home-study course or as a formal ground school.

This syllabus was constructed using the building-block progression of learning, in which the student is required to perform each simple task correctly before a more complex task is introduced. This method will promote the formation of correct habit patterns from the beginning.

Ground Training Syllabus

The ground training syllabus contains 11 lessons, which are divided into three stages. The ground training syllabus meets the training requirements of Appendix C to Part 141 and Sec. 61.65(b). The ground training can be conducted concurrently with the flight training, with the ground lessons completed in order as outlined in the lesson matrix. Ground training may also be conducted as part of a formal ground school or as a home-study program.

It is recommended that the lessons be completed in sequence, but the syllabus is flexible enough to meet the needs of an individual student or of a particular training environment. When departing from the sequence, the instructor is responsible for considering the blocks of learning affected and, if used by a Part 141 pilot school, whether it would affect FAA approval.

Each ground lesson involves studying the appropriate section in the Gleim ***Instrument Pilot Flight Maneuvers and Practical Test Prep, Aviation Weather and Weather Services, FAR/AIM, and Pilot Handbook***. After each study assignment is completed, you need to answer the questions in the appropriate study unit in the Gleim ***Instrument Pilot FAA Knowledge Test*** book and review incorrect responses with your instructor.

Alternatively, the Gleim **FAA Test Prep Online** can be used to answer the questions at the end of each ground lesson. Our software contains the FAA figures and outlines in addition to the questions.

FAA Test Prep Online allows you to select either STUDY MODE or TEST MODE. In STUDY MODE, the software provides you with an immediate explanation of each answer you choose (correct or incorrect). You design each study lesson by choosing the conditions. In TEST MODE, you decide the format -- CATS or PSI. The software can emulate the operation of the FAA-approved computer testing companies. Thus, you will have a complete understanding of exactly how to take an FAA instrument rating airman knowledge test before you go to a computer testing center. When you finish your test, you can study the questions missed and access answer explanations.

A third option for ground study is the Gleim **Online Ground School (OGS)**. OGS uses a similar approach to a traditional ground school in that each lesson is presented in order and divided into stages, per the syllabus book. The course contains audiovisual presentations, detailed study material, and quizzes for maximum retention of the information covered.

Because OGS is a self-study program delivered via the Internet, the classroom is always open, so you can study as it fits in to your schedule. When you complete the program and pass the end-of-course knowledge test, an endorsement will be provided to you that will enable you to take the FAA knowledge test at a testing center. This feature makes OGS especially valuable to those users electing to complete their ground training before beginning flight training.

At the end of each stage, you are required to complete the stage knowledge test before proceeding to the next stage. The end-of-course knowledge test is completed after the stage three knowledge test. Shortly after the end-of-course test, you should take the FAA instrument rating airman knowledge test. The stage knowledge tests in the ground syllabus will refer you to FAA figures found after the end-of-course knowledge test in this syllabus.

If this ground training is used as home study, we recommend that you complete the ground syllabus as quickly as possible and pass the FAA instrument rating airman knowledge test so you will have more time to prepare for your flight lessons.

Flight Training Syllabus

The Part 141 flight training syllabus contains 29 lessons, which are divided into three stages. It is recommended that each lesson be completed in sequential order.

Stage one of the flight training syllabus is designed to provide you with a foundation of attitude instrument flying skills.

Stage two is designed to provide you with the knowledge and skills required for holding procedures and instrument approach procedures.

Stage three is designed to provide you with practical experience in IFR cross-country flights and preparation for the FAA instrument rating practical test.

Stage checks. Stage checks are designed to ensure that you have acquired the necessary knowledge and skill. The stage one check (Lesson 13) is to ensure that you are proficient in attitude instrument flying. The stage two check (Lesson 23) is to ensure that you are proficient in holding procedures and instrument approach procedures. The stage three check (Lesson 28) is to ensure you are proficient in IFR cross-country flights. The end-of-course test (Lesson 29) is to ensure you are proficient in all instrument knowledge, risk assessment, and skill areas and are ready for the instrument rating practical test. It is also the final evaluation for a Part 141 graduation certificate.

The chief instructor (for the Part 141 training course) is responsible for ensuring that each pilot accomplishes the required stage checks and the end-of-course test. The chief instructor may delegate authority for conducting stage checks and the end-of-course test to an assistant chief instructor or a check instructor.

Stage checks will be used as a review by instructors conducting training under Part 61 to ensure that you have the appropriate knowledge and skills.

Sequence of a flight lesson. Each flight lesson will begin with a preflight briefing. During this time, your instructor should first answer any questions you may have from the previous lesson. Next, your instructor will brief you on the lesson content, followed by an evaluation of your preparation for the lesson.

During the flight portion of the lesson, your instructor should begin with those maneuvers listed as “review items” before introducing new maneuvers. The time required for each lesson will vary depending on the airport and the location of the training areas.

At the end of each lesson, your instructor will conduct a postflight critique and a preview of the next lesson. This time should be used to review the good points during the lesson, to identify and explain fully any problem areas, and to discuss how to correct the problems. In addition, it is a time for you to ask any questions you have about the flight.

The length of the preflight briefing and postflight critique will vary with each pilot and with his or her degree of preparedness for the lesson.

Repeating lessons. A flight lesson in this syllabus is considered complete when all review and/or new lesson items have met the completion standards for the lesson. If some items do not meet the standards or are simply not covered, those items must be completed to the applicable standards before the lesson is considered complete and before the student can move on to the next flight lesson.

You will notice multiple checkboxes beside lesson items in the syllabus book and even more in the training record to allow for multiple lesson attempts. It should not be assumed that a student's instrument training will take only 29 flight lessons simply because that is the number of lessons in the syllabus. It is likely and planned for that students will occasionally need to repeat lessons or certain items from lessons during this course of training.

Pilot preparation. The key to minimizing frustration and costs is preparation. You should budget an average of 2 to 4 hours of home study prior to each flight lesson. Learning will be easier when you are fully prepared so that your instructor can maximize the time spent in flight training.

USE OF A FLIGHT SIMULATION TRAINING DEVICE (FSTD) OR AN AVIATION TRAINING DEVICE (ATD)

A Flight Simulation Training Device (FSTD) or Aviation Training Device (ATD) can be an extremely important teaching tool in your instrument training. It can be used to teach the instrument scan, visualization of position, holding procedures, and approach procedures far more efficiently and cost-effectively than an airplane. These devices can be stopped in mid-flight to allow discussion of problems and can be reset so that difficult portions of a procedure can be practiced repeatedly. Training time in these devices must be logged with an authorized instructor.

The Gleim ***Instrument Pilot Syllabus*** is designed to be used in a course using only an airplane or in a course that provides the option of using a Flight Simulation Training Device (FSTD) and/or an Aviation Training Device (ATD).

A Part 141 pilot school must meet the requirements of FAA AC 61-136A, *FAA Approval of Aviation Training Devices and Their Use for Training and Experience*, and must obtain approval from its FSDO to use an FSTD and/or ATD. Additionally, the school's POI (FAA principal operations inspector) is responsible for approving how these devices are to be used in the training curriculum. Further references can be found in 14 CFR Secs. 141.41, 141.55, 141.57, and appendices B, C, D, E, F, G, I, K, and M.

A Part 61 pilot school must meet the requirements of FAA AC 61-136A, *FAA Approval of Aviation Training Devices and Their Use for Training and Experience*. Further references can be found in 14 CFR Secs. 61.4, 61.51, 61.57, 61.65, 61.109, 61.129, and 61.159.

Almost every lesson in this syllabus can be completed using an FSTD/ATD. Lessons marked as "FSTD/ATD option" under the lesson title may be completed in an aviation training device in lieu of an airplane. However, the FAA limits the maximum amount of time that can be attributed toward your instrument flight training. If an FSTD/ATD is available, the instructor and student should work together to determine which lessons would provide the greatest benefits while still meeting FAA requirements.

For more information on the use of FSTDs and ATDs, including definitions and approvals for use under Part 61 or 141, see Appendix B, starting on page 129.

AIRPLANE AND LOCAL AIRPORT(S) WORKSHEETS

During your instrument training, your CFII will provide you with the appropriate aircraft power settings and configurations to produce the desired performance. Applying this information is called "flying by the numbers" or the PAC (power setting, altitude, and configuration) method. Use the airplane worksheet to fill out the power and configuration to obtain a desired performance (e.g., 100 kt., VSI $\pm$ 500 fpm) for all phases of instrument flight. The local airport(s) worksheet is to be used as a study reference of radio frequencies, runway lengths, and types of approach(es) available at your primary airport and any other local airports you may use during your training.

AIRPLANE WORKSHEET

<u>Phase of Flight</u>	<u>Power (MP/RPM)</u>	<u>Configuration</u>	<u>Performance</u>
Initial Climb			
Cruise Climb			
Cruise			
En Route Descent			
Holding			
IAF to FAF			
FAF to MDA/DH			
Level Off at MDA			
Missed Approach			

LOCAL AIRPORT(S) WORKSHEET

Airport Name	_____	_____	_____	_____	_____
Identifier	_____	_____	_____	_____	_____
Elevation	_____	_____	_____	_____	_____
ATIS	_____	_____	_____	_____	_____
Ground	_____	_____	_____	_____	_____
Tower/CTAF	_____	_____	_____	_____	_____
Approach control	_____	_____	_____	_____	_____
Runway	_____	_____	_____	_____	_____
Approach(es)	_____	_____	_____	_____	_____
Length	_____	_____	_____	_____	_____
Traffic Pattern	Left or Right	Left or Right	Left or Right	Left or Right	Left or Right
Obstructions	_____	_____	_____	_____	_____
Runway	_____	_____	_____	_____	_____
Approach(es)	_____	_____	_____	_____	_____
Length	_____	_____	_____	_____	_____
Traffic Pattern	Left or Right	Left or Right	Left or Right	Left or Right	Left or Right
Obstructions	_____	_____	_____	_____	_____
Runway	_____	_____	_____	_____	_____
Approach(es)	_____	_____	_____	_____	_____
Length	_____	_____	_____	_____	_____
Traffic Pattern	Left or Right	Left or Right	Left or Right	Left or Right	Left or Right
Obstructions	_____	_____	_____	_____	_____
Runway	_____	_____	_____	_____	_____
Approach(es)	_____	_____	_____	_____	_____
Length	_____	_____	_____	_____	_____
Traffic Pattern	Left or Right	Left or Right	Left or Right	Left or Right	Left or Right
Obstructions	_____	_____	_____	_____	_____
Traffic Pattern Altitude	_____	_____	_____	_____	_____

INSTRUMENT RATING SYLLABUS LESSON SEQUENCE AND TIMES

The Ground Syllabus follows on pages 15 through 35 and the Flight Syllabus follows on pages 37 through 71.

The table on the following pages lists the sequence of the flight and ground lessons and the minimum time for each lesson. The times listed are for instructor/student guidance only and are not meant to be mandatory times. These times will ensure that the minimum time requirements for aeronautical knowledge and flight training are in compliance with Part 141, Appendix C, Instrument Rating Course.

Sec. 61.65, Instrument Rating Requirement, requires that you have logged at least 50 hours of cross-country time as pilot in command (of which 10 hours must be in an airplane). A total of 40 hours of actual or simulated instrument time in the areas of operation listed in 61.65(c) is required, of which 15 hours must have been received from an authorized instructor. This instrument time must include 3 hours of instrument flight training within 2 calendar months before the date of the practical test and a 250 NM IFR cross-country flight with a total of 3 approaches. Thus, if you are conducting your training under Part 61, you and your instructor must add at least 5 additional instrument flight training hours to the 35-hour total in the following table. Additionally, you are responsible for ensuring that you have 50 hours of cross-country time as pilot in command. Gleim leaves the selection of which lessons to add up to the student/instructor to ensure the appropriate content is covered for each student.

Each training flight must include a preflight briefing and a postflight critique of the pilot's performance by the instructor.

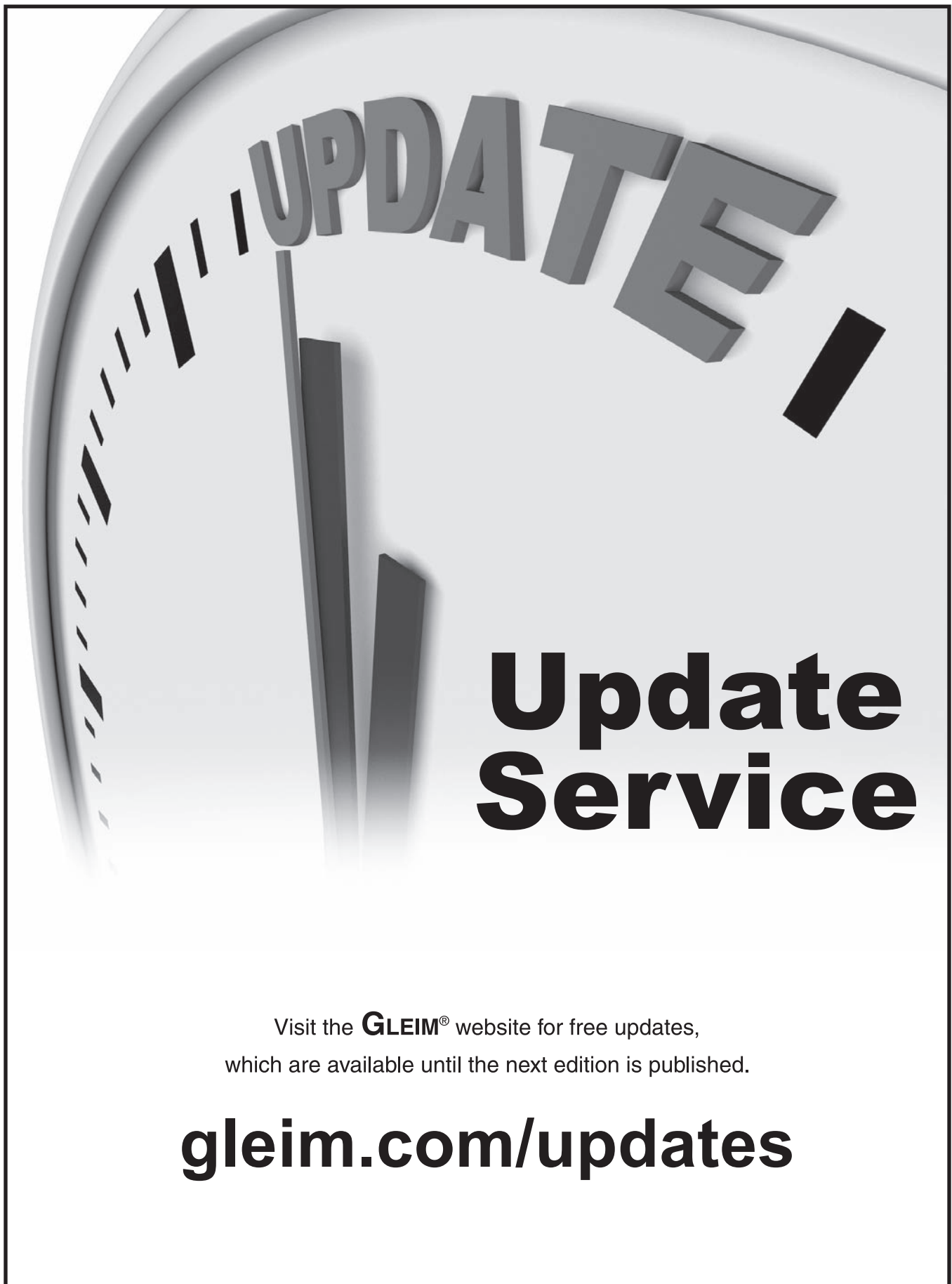
If you are using a flight simulation training device or aviation training device, the columns under BATD, AATD, and FFS represent a sample recommended sequence of lessons that can maximize use of simulator time. These are not the only lessons for which a simulator may be used. For more information, including definitions and approvals for the use of various types of simulators under Part 61 or 141, see Appendix B, starting on page 129.

LESSON	Page	Flight					Ground
		Instrument Flight Training	Dual Cross-Country	BATD	AATD	FFS	Aeronautical Knowledge Training
STAGE ONE							
Flight 1 Attitude Instrument Flying	41	1.0		0.75	1.0	1.0	
Ground 1 Airplane Instruments	19						2.0
Flight 2 Instrument Takeoff/Steep Turns/ Airspeed Changes	42	1.0					
Ground 2 Attitude Instrument Flying/ Aerodynamics	20						2.0
Flight 3 Rate Climbs/Descents, Timed Turns/Magnetic Compass Turns	43	1.0	1.0		1.0	1.0	
Flight 4 Partial-Panel Flying	44	1.0			1.0	1.0	
Flight 5 Attitude Instrument Flying (Review)	45	1.0					
Flight 6 Partial-Panel Flying (Review)	46	1.0					
Flight 7 Basic Instrument Flight Patterns	47	1.0				1.0	
Ground 3 Navigation Systems	21						2.0
Flight 8 VOR/VORTAC Procedures	48	1.0		1.0	1.0	1.0	
Flight 9 VOR Time/Dist., DME Arcs	49	1.0			1.0	1.0	
Ground 4 Federal Aviation Regulations	22						2.0
Flight 10 GPS Procedures	50	1.0		1.0	1.0	1.0	
Flight 11 GPS Procedures Advanced	51	1.0			1.0	1.0	
Ground Stage One Knowledge Test	23						1.0
Flight 12 Tracking the Localizer	52	1.0				1.0	
Flight 13 Stage One Check	53	1.5					

LESSON	Page	Flight					Ground
		Instrument Flight Training	Dual Cross-Country	BATD	AATD	FFS	Aeronautical Knowledge Training
STAGE TWO							
Ground 5 Airports/ATC/Airspace	25						2.5
Ground 6 Holding and Instrument Approaches	26						3.0
Flight 14 VOR Holding	55	1.0		1.0	1.0	1.0	
Flight 15 GPS Holding	56	1.0		1.0	1.0	1.0	
Flight 16 Localizer Holding	57	1.0				1.0	
Flight 17 DME and Intersection Holding	58	1.0			1.0	1.0	
Ground 7 Aeromedical Factors	27						1.5
Flight 18 VOR Instrument Approach	59	1.0			1.0	1.0	
Flight 19 GPS Instrument Approaches	60	1.0		1.5	1.5	1.5	
Flight 20 Localizer Instrument Approach	61	1.0				1.0	
Flight 21 ILS Instrument Approach	62	1.0		1.5	1.5	1.0	
Flight 22 Instrument Approaches (Review)	63	1.5					
Ground Stage Two Knowledge Test	28						1.0
Flight 23 Stage Two Check	64	1.0					

LESSON	Page	Flight					Ground
		Instrument Flight Training	Dual Cross-Country	BATD	AATD	FFS	Aeronautical Knowledge Training
STAGE THREE							
Ground 8 Aviation Weather	30						2.5
Ground 9 Aviation Weather Services	31						2.0
Flight 24 Cross-Country and Emergency Procedures	66	2.0	2.0				
Ground 10 IFR En Route	32						2.0
Flight 25 Cross-Country Procedures	67	2.0	2.0				
Ground 11 IFR Flights	33						3.0
Flight 26 Cross-Country Procedures	68	3.0	3.0				
Ground Stage Three Knowledge Test	34						1.0
Flight 27 Maneuvers Review	69	1.0					
Ground End-of-Course Knowledge Test	35						2.5
Flight 28 Stage Three Check	70	1.5					
Flight 29 End-of-Course Test	71	1.5					
TOTALS (PART 141)		35.0	7.0	8.75	14.0	17.5	30.0
TOTALS (PART 61)*		40.0	7.0	10.00	20.0	20.0	
		Min		Max	Max	Max	Min

*Part 61 must add at least 5 additional hours to the Part 141 instrument flight training time.



Visit the **GLEIM®** website for free updates,
which are available until the next edition is published.

gleim.com/updates

INSTRUMENT RATING GROUND TRAINING SYLLABUS AIRPLANE SINGLE-ENGINE LAND

<i>Ground Training Course Objectives</i>	16
<i>Ground Training Course Completion Standards</i>	16
<i>Stage One</i>	17
<i>Pilot and Instructor Log for Ground Training Completion</i>	18
<i>Ground Lesson 1: Airplane Instruments</i>	19
<i>Ground Lesson 2: Attitude Instrument Flying and Aerodynamics</i>	20
<i>Ground Lesson 3: Navigation Systems</i>	21
<i>Ground Lesson 4: Federal Aviation Regulations</i>	22
<i>Stage One Knowledge Test</i>	23
<i>Stage Two</i>	24
<i>Ground Lesson 5: Airports, Air Traffic Control, and Airspace</i>	25
<i>Ground Lesson 6: Holding and Instrument Approaches</i>	26
<i>Ground Lesson 7: Aeromedical Factors</i>	27
<i>Stage Two Knowledge Test</i>	28
<i>Stage Three</i>	29
<i>Ground Lesson 8: Aviation Weather</i>	30
<i>Ground Lesson 9: Aviation Weather Services</i>	31
<i>Ground Lesson 10: IFR En Route</i>	32
<i>Ground Lesson 11: IFR Flights</i>	33
<i>Stage Three Knowledge Test</i>	34
<i>End-of-Course Knowledge Test</i>	35

GROUND TRAINING COURSE OBJECTIVES

The pilot will obtain the necessary aeronautical knowledge and meet the prerequisites specified in Appendix C to 14 CFR Part 141 (and Sec. 61.65) to successfully pass the instrument rating (airplane) knowledge test.

GROUND TRAINING COURSE COMPLETION STANDARDS

The pilot will demonstrate through stage knowledge tests and school records that (s)he meets the prerequisites specified in Appendix C to 14 CFR Part 141 (and Sec. 61.65) and has the aeronautical knowledge necessary to pass the instrument rating (airplane) knowledge test.

<u>Lesson</u>	<u>Topic</u>	<u>Min. Time in Hours</u>
Stage One		
1	Airplane Instruments	2.0
2	Attitude Instrument Flying and Aerodynamics	2.0
3	Navigation Systems	2.0
4	Federal Aviation Regulations	2.0
	Stage One Knowledge Test	1.0
Stage Two		
5	Airports, Air Traffic Control, and Airspace	2.5
6	Holding and Instrument Approaches	3.0
7	Aeromedical Factors	1.5
	Stage Two Knowledge Test	1.0
Stage Three		
8	Aviation Weather	2.5
9	Aviation Weather Services	2.0
10	IFR En Route	2.0
11	IFR Flights	3.0
	Stage Three Knowledge Test	1.0
	End-of-Course Knowledge Test	<u>2.5</u>
	Total Ground Training	30.0

141 Ground School Signoff

School Name _____

Chief Ground Instructor _____

Assistant Chief Ground Instructor _____

STAGE ONE**Stage One Objective**

To develop the pilot's knowledge of basic attitude instrument flying. The pilot will learn about the operation of various airplane instruments, aerodynamic factors related to instrument flying, and various navigation systems. Finally, the pilot will become familiar with pertinent Federal regulations for IFR flight operations.

Stage One Completion Standards

Stage One will have been successfully completed when the pilot passes the Stage One knowledge test with a minimum passing grade of 80%.

<u>Lesson</u>	<u>Topic</u>	<u>Min. Time</u>
1	Airplane Instruments	2.0
2	Attitude Instrument Flying and Aerodynamics	2.0
3	Navigation Systems	2.0
4	Federal Aviation Regulations	2.0
	Stage One Knowledge Test	1.0

PILOT AND INSTRUCTOR LOG FOR GROUND TRAINING COMPLETION*

<u>Lesson</u>		<u>Time</u> (Hours)	<u>Initials/Dates</u>	
			<u>Pilot</u>	<u>Instructor</u>
Stage One				
1	Airplane Instruments	2.0	<u> / </u>	<u> / </u>
2	Attitude Instrument Flying and Aerodynamics	2.0	<u> / </u>	<u> / </u>
3	Navigation Systems	2.0	<u> / </u>	<u> / </u>
4	Federal Aviation Regulations	2.0	<u> / </u>	<u> / </u>
	Stage One Knowledge Test	1.0	<u> / </u>	<u> / </u>
Stage Two				
5	Airports, Air Traffic Control, and Airspace	2.5	<u> / </u>	<u> / </u>
6	Holding and Instrument Approaches	3.0	<u> / </u>	<u> / </u>
7	Aeromedical Factors	1.5	<u> / </u>	<u> / </u>
	Stage Two Knowledge Test	1.0	<u> / </u>	<u> / </u>
Stage Three				
8	Aviation Weather	2.5	<u> / </u>	<u> / </u>
9	Aviation Weather Services	2.0	<u> / </u>	<u> / </u>
10	IFR En Route	2.0	<u> / </u>	<u> / </u>
11	IFR Flights	3.0	<u> / </u>	<u> / </u>
	Stage Three Knowledge Test	1.0	<u> / </u>	<u> / </u>
	End-of-Course Knowledge Test	<u>2.5</u>	<u> / </u>	<u> / </u>
	Total Ground Training	<u>30.0</u>		

*Required for Part 141 but NOT required for the authorization form below. A CFII or IGI (instrument ground instructor) can endorse (or "sign off") the authorization form below, based on the individual's assertion that (s)he studied Gleim.

NOTE: You may also use the Instrument Training Record to log this information.

**INSTRUCTOR AUTHORIZATION FORM
INSTRUMENT RATING KNOWLEDGE TEST**

Name: _____

I certify that I have reviewed the above individual's preparation for the FAA Instrument Rating–Airplane knowledge test [covering the topics specified in Appendix C to 14 CFR Part 141**] using the *Instrument Pilot FAA Knowledge Test* book, FAA Test Prep Online, and/or Online Ground School course by Irvin N. Gleim and Garrett W. Gleim and find him or her competent to pass the knowledge test.

**Also the topics specified in Sec. 61.65(b)(1) through (10).

Signed _____	Date _____	Name _____	CFII/IGI Number _____	CFI Exp. Date _____
--------------	------------	------------	-----------------------	---------------------

When completed, make one copy to take to CATS or PSI AND one copy for your CFII/IGI/flight school.

GROUND LESSON 1: AIRPLANE INSTRUMENTS**Objective**

To develop the pilot's knowledge of the airplane instruments related to instrument flying.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (79 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 1, "Airplane Instruments" (26 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 1 Contents	No. of Questions
<i>Study Unit 11, Aircraft Systems Related to IFR Operations</i>	159-166	1.1 <i>Compass Errors</i>	11
<i>Study Unit 12, Aircraft Flight Instruments and Navigation Equipment</i>	167-198	1.2 <i>Pitot-Static System</i>	10
<i>Study Unit 16, Instrument Flight</i>	263-302	1.3 <i>Altimeter</i>	24
		1.4 <i>Gyroscopes</i>	2
		1.5 <i>Heading Indicator</i>	1
		1.6 <i>Attitude Indicator</i>	10
		1.7 <i>Turn-and-Slip Indicator</i>	2
		1.8 <i>Turn Coordinator (TC)</i>	8
		1.9 <i>Glass Cockpits</i>	9

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 1, "Airplane Instruments," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 2: ATTITUDE INSTRUMENT FLYING AND AERODYNAMICS**Objective**

To develop the pilot's knowledge of attitude instrument flying and the aerodynamic factors related to instrument flying.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (58 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 2, "Attitude Instrument Flying and Aerodynamics" (22 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 2 Contents	No. of Questions
<i>Study Unit 16, Instrument Flight</i>	263-302	2.1 <i>Turns</i>	14
<i>Study Unit 17, Recovery from Unusual Flight Attitudes</i>	303-312	2.2 <i>Turn Rates</i>	8
<i>Study Unit 26, Approach with Loss of Primary Flight Instrument Indicators</i>	487-494	2.3 <i>Climbs and Descents</i>	11
		2.4 <i>Fundamental Instrument Skills</i>	4
		2.5 <i>Appropriate Instruments for IFR</i>	3
		2.6 <i>Unusual Attitudes</i>	6
		2.7 <i>Inoperative Instruments</i>	5
		2.8 <i>Turbulence and Wind Shear</i>	3

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 2, "Attitude Instrument Flying and Aerodynamics," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 3: NAVIGATION SYSTEMS**Objective**

To further develop the pilot's knowledge of various navigation systems used during IFR flight operations.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (68 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 3, "Navigation Systems" (30 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 3 Contents	No. of Questions
<i>Study Unit 12, Aircraft Flight Instruments and Navigation Equipment</i>	167-198	3.1 <i>Distance Measuring Equipment (DME)</i> . .	4
<i>Study Unit 13, Instrument and Equipment Cockpit Check</i>	199-214	3.2 <i>VOR Receiver Check</i>	11
<i>Study Unit 18, Intercepting and Tracking Navigational Systems and DME Arcs</i>	315-334	3.3 <i>Very High Frequency Ominidirectional Range (VOR) Station</i>	18
		3.4 <i>Horizontal Situation Indicator (HSI)</i> . . .	15
		3.5 <i>HSI/Localizer</i>	9
		3.6 <i>Global Positioning System (GPS)</i>	19
		3.7 <i>Autopilots</i>	3

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 3, "Navigation Systems," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 4: FEDERAL AVIATION REGULATIONS**Objective**

To develop the pilot's knowledge of pertinent Federal regulations for IFR flight operations.

Text References

FAR/AIM (109 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 4, "Federal Aviation Regulations" (28 pages)

<i>FAR/AIM</i> Reading Assignment	Sections	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 4 Contents	No. of Questions
<i>Part 61 -- Certification: Pilots, Flight Instructors, and Ground Instructors . . .</i>	<i>Entire Part</i>	4.1 <i>FAR Part 1</i>	3
<i>Part 91 -- General Operating and Flight Rules</i>	91.1 – 91.421	4.2 <i>FAR Part 61</i>	27
<i>NTSB Part 830 -- Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records</i>	<i>Entire Part</i>	4.3 <i>FAR Part 91</i>	66
		4.4 <i>NTSB Part 830</i>	1

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 4, "Federal Aviation Regulations," of *Instrument Pilot FAA Knowledge Test*, *FAA Test Prep Online*, and/or *Online Ground School* with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>FAR/AIM</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

STAGE ONE KNOWLEDGE TEST**Objective**

To evaluate the pilot's understanding of the material presented during Ground Lesson 1 through Ground Lesson 4. Stage One knowledge test consists of 20 questions.

ContentLesson

- 1 Airplane Instruments
- 2 Attitude Instrument Flying and Aerodynamics
- 3 Navigation Systems
- 4 Federal Aviation Regulations

Completion Standards

The lesson will have been successfully completed when the pilot has completed the Stage One knowledge test with a minimum passing grade of 80%.

Date of test: _____

Score: _____

Date of review: _____

Pilot Initials Instructor Initials

Photocopy this page and place in pilot's folder _____.
initials

STAGE TWO**Stage Two Objective**

To develop the pilot's knowledge of ATC clearances, holding procedures, and instrument approach procedures and charts. The pilot will learn about airport markings and signs, airspace, and arrival and departure procedures and charts. Additionally, the pilot will learn about aeromedical factors, aeronautical decision making, and crew resource management.

Stage Two Completion Standards

Stage Two will have been successfully completed when the pilot passes the Stage Two knowledge test with a minimum passing grade of 80%.

<u>Lesson</u>	<u>Topic</u>	<u>Min. Time</u>
5	Airports, Air Traffic Control, and Airspace	2.5
6	Holding and Instrument Approaches	3.0
7	Aeromedical Factors	1.5
	Stage Two Knowledge Test	1.0

GROUND LESSON 5: AIRPORTS, AIR TRAFFIC CONTROL, AND AIRSPACE**Objective**

To develop the pilot's knowledge of airports, wake turbulence and collision avoidance, ATC communication procedures and phraseology, ATC clearances, IFR flight plan and information, and the National Airspace System.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (79 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 5, "Airports, Air Traffic Control, and Airspace" (46 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 5 Contents	No. of Questions
<i>Study Unit 10, Cross-Country Flight Planning</i>	133-156	5.1 <i>Precision Instrument Runway Markings</i> .	6
<i>Study Unit 14, Compliance with Air Traffic Control Clearances</i>	217-239	5.2 <i>Airport Signs and Markings</i>	17
<i>Study Unit 19, Departure, En Route, and Arrival Operations</i>	335-358	5.3 <i>Visual Approach Slope Indicator (VASI)</i> .	8
<i>Study Unit 25, Loss of Communications</i> . .	479-486	5.4 <i>Precision Approach Path Indicator (PAPI)</i>	4
		5.5 <i>Runway Light Systems</i>	3
		5.6 <i>Wake Turbulence</i>	5
		5.7 <i>Collision Avoidance</i>	4
		5.8 <i>IFR Flight Planning Information</i>	8
		5.9 <i>IFR Flight Plan</i>	7
		5.10 <i>ATC Clearances</i>	10
		5.11 <i>ATC Communication Procedures</i>	21
		5.12 <i>Radio Communication Failure</i>	6
		5.13 <i>Navigation Radio Failure</i>	3
		5.14 <i>Types of Airspace</i>	15
		5.15 <i>Airport Diagram – Chart Supplement</i> . .	6

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 5, "Airports, Air Traffic Control, and Airspace," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 6: HOLDING AND INSTRUMENT APPROACHES**Objective**

To develop the pilot's knowledge of holding procedures and instrument approach procedures. Additionally, the pilot will learn about standard terminal arrival route (STAR) procedures and instrument departure procedures (DP).

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (159 pages)
Instrument Pilot FAA Knowledge Test, Study Unit 6, "Holding and Instrument Approaches" (125 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 6 Contents	No. of Questions
<i>Study Unit 19, Departure, En Route, and Arrival Operations</i>	335-358	6.1 <i>Contact and Visual Approaches</i>	7
<i>Study Unit 15, Holding Procedures</i>	241-260	6.2 <i>LDA and SDF Approaches</i>	2
<i>Part III, Section VI (Introduction)</i>	359-378	6.3 <i>Precision Runway Monitor (PRM)</i>	2
<i>Study Unit 20, Nonprecision Approach</i>	379-420	6.4 <i>Runway Visual Range (RVR)</i>	5
<i>Study Unit 21, Precision Approach</i>	421-441	6.5 <i>Missed Approaches</i>	6
<i>Study Unit 22, Missed Approach</i>	443-453	6.6 <i>ILS Specifications</i>	10
<i>Study Unit 23, Circling Approach</i>	455-462	6.7 <i>Unusable ILS Components</i>	5
<i>Study Unit 24, Landing from an Instrument Approach</i>	463-475	6.8 <i>Flying the Approach</i>	13
		6.9 <i>Side-Step Approaches</i>	2
		6.10 <i>Holding</i>	21
		6.11 <i>Instrument Approach Charts</i>	69
		6.12 <i>DPs and STARs</i>	18
		6.13 <i>GPS Approaches</i>	19

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 6, "Holding and Instrument Approaches," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 7: AEROMEDICAL FACTORS**Objective**

To further develop the pilot's knowledge of the medical factors related to instrument flight, the aeronautical decision-making (ADM) process, and crew resource management.

Text References

Pilot Handbook, Study Unit 6, "Aeromedical Factors and Aeronautical Decision Making (ADM)" (34 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 7, "Aeromedical Factors" (8 pages)

<i>Pilot Handbook</i> Study Unit 6 Contents	Page(s)	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 7 Contents	No. of Questions
6.1 <i>Fitness for Flight</i>	327-330	7.1 <i>Hypoxia and Hyperventilation</i>	8
6.2 <i>Hypoxia</i>	330-332	7.2 <i>Spatial Disorientation</i>	15
6.3 <i>Dehydration</i>	332	7.3 <i>Vision and Visual Illusion</i>	6
6.4 <i>Hyperventilation</i>	333	7.4 <i>Fatigue</i>	1
6.5 <i>Carbon Monoxide Poisoning</i>	333-334		
6.6 <i>Decompression Sickness after</i> <i>Scuba Diving</i>	335		
6.7 <i>Motion Sickness</i>	335		
6.8 <i>Sinus and Ear Block</i>	336		
6.9 <i>Spatial Disorientation</i>	337		
6.10 <i>Illusions in Flight</i>	337-339		
6.11 <i>Vision</i>	339-342		
6.12 <i>Aeronautical Decision Making (ADM)</i>	342-349		
6.13 <i>Weather-Related Decision Making</i> . .	350-351		
6.14 <i>Stress and Flying</i>	352-354		
6.15 <i>Identifying the Enemy</i>	355-356		
6.16 <i>Single-Pilot Resource Management</i> <i>(SRM)</i>	356-360		
6.16 <i>Automation Management</i>	360		

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 7, "Aeromedical Factors," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Pilot Handbook</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

STAGE TWO KNOWLEDGE TEST

Objective

To evaluate the pilot's understanding of the material presented during Ground Lesson 5 through Ground Lesson 7. Stage Two knowledge test consists of 20 questions.

Content

Lesson (Lessons 1-4 were Stage One.)

- 5 Airports, Air Traffic Control, and Airspace
6 Holding and Instrument Approaches
7 Aeromedical Factors

Completion Standards

The lesson will have been successfully completed when the pilot has completed the Stage Two knowledge test with a minimum passing grade of 80%.

Date of test: _____

Score: _____

Date of review: _____

Pilot Initials Instructor Initials

Photocopy this page and place in pilot's folder _____.

STAGE THREE

Stage Three Objective

To develop the pilot's knowledge of IFR cross-country flights. The pilot will learn about weather theory as well as how to use aviation weather reports and forecasts, including how to use those items along with personal observations of weather conditions to forecast weather trends. The pilot will learn about IFR en route operations and IFR en route chart interpretation. Finally, the pilot will review previously learned material with a comprehensive review of IFR flights.

Stage Three Completion Standards

Stage Three will have been successfully completed when the pilot passes the Stage Three knowledge test with a minimum passing grade of 80%.

Lesson	Topic	Min. Time
8	Aviation Weather	2.5
9	Aviation Weather Services	2.0
10	IFR En Route	2.0
11	IFR Flights	3.0
	Stage Three Knowledge Test	1.0
	End-of-Course Knowledge Test	2.5

GROUND LESSON 8: AVIATION WEATHER**Objective**

To develop the pilot's ability to recognize critical weather situations and avoid wind shear.

Text References

Aviation Weather and Weather Services, Study Units 1-13 (Parts I and II) (144 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 8, "Aviation Weather" (36 pages)

<i>Aviation Weather and Weather Services</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 8 Contents	No. of Questions
<i>The Earth's Atmosphere</i>	3-6	8.1 <i>Causes of Weather</i>	16
<i>Temperature</i>	7-13	8.2 <i>Stability of Air Masses</i>	13
<i>Atmospheric Pressure and Altimetry</i>	15-27	8.3 <i>Temperature Inversions</i>	4
<i>Wind</i>	29-44	8.4 <i>Temperature, Dew Point, and Fog</i>	13
<i>Moisture, Cloud Formation, and</i> <i>Precipitation</i>	45-54	8.5 <i>Clouds</i>	8
<i>Stable and Unstable Air</i>	55-61	8.6 <i>Thunderstorms</i>	11
<i>Clouds</i>	63-72	8.7 <i>Icing</i>	51
<i>Air Masses and Fronts</i>	73-90	8.8 <i>Wind Shear</i>	8
<i>Turbulence</i>	91-102	8.9 <i>Microbursts</i>	8
<i>Icing</i>	103-112		
<i>Thunderstorms</i>	113-130		
<i>Common IFR Producers</i>	131-140		
<i>High Altitude Weather</i>	143-151		

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 8, "Aviation Weather," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Aviation Weather and Weather Services</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 9: AVIATION WEATHER SERVICES**Objective**

To develop the pilot's knowledge of procurement and use of aviation weather reports and forecasts, and the elements of forecasting weather trends on the basis of that information and personal observation of weather conditions.

Text References

Aviation Weather and Weather Services, Part III, Aviation Weather Services (127 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 9, "Aviation Weather Services" (37 pages)

<i>Aviation Weather and Weather Services</i> Part III Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 9 Contents	No. of Questions
<i>Aviation Routine Weather Reports (METAR)</i>	225-246	9.1 <i>In-Flight Weather Advisories</i>	5
<i>Pilot Weather Reports (PIREP)</i>	247-252	9.2 <i>Aviation Routine Weather Report</i> <i>(METAR)</i>	5
<i>Surface Analysis Charts</i>	277-282	9.3 <i>Pilot Weather Reports (PIREPs)</i>	2
<i>Constant Pressure Charts</i>	283-292	9.4 <i>Weather Depiction Chart</i>	2
<i>Weather Depiction Charts</i>	301-304	9.5 <i>Terminal Aerodrome Forecast (TAF)</i>	7
<i>Significant Meteorological Information</i> <i>(SIGMET)</i>	327-339	9.6 <i>Aviation Area Forecast (FA)</i>	2
<i>Airmen's Meteorological Information</i> <i>(AIRMET)</i>	341-347	9.7 <i>Winds and Temperatures Aloft</i> <i>Forecast (FB)</i>	10
<i>Center Weather Advisory (CWA)</i>	349-352	9.8 <i>Low-Level Significant Weather Prog</i>	8
<i>Additional Products for Convection</i>	353-362	9.9 <i>Severe Weather Outlook Chart</i>	5
<i>Area Forecasts (FA)</i>	379-391	9.10 <i>Miscellaneous Charts and Forecasts</i>	10
<i>Terminal Aerodrome Forecast (TAF)</i>	393-404	9.11 <i>High-Level Significant Weather Prog</i>	10
<i>Wind and Temperature Aloft Forecasts (FB)</i>	407-412	9.12 <i>Observed Winds Aloft Chart</i>	4
<i>Short-Range Surface Prognostic (PROG)</i> <i>Charts</i>	413-416		
<i>Low-Level Significant Weather</i> <i>(SIGWX) Charts</i>	417-420		
<i>High-Level Significant Weather</i> <i>(SIGWX) Charts</i>	429-434		

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 9, "Aviation Weather Services," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Aviation Weather and Weather Services</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 10: IFR EN ROUTE**Objective**

To develop the pilot's knowledge of IFR en route operations and interpretation of IFR en route charts.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (23 pages)

Instrument Pilot FAA Knowledge Test, Study Unit 10, "IFR En Route" (20 pages)

<i>Instrument Pilot Flight Maneuvers</i> Reading Assignment	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 10 Contents	No. of Questions
<i>Study Unit 4, Subunit 9, IFR Altitudes Defined</i>	38-39	<i>10.1 Minimum IFR Altitudes</i>	14
<i>Study Unit 14, Compliance with Air Traffic</i>		<i>10.2 VFR-on-Top</i>	18
<i>Control Clearances</i>	217-239	<i>10.3 IFR En Route Chart Interpretation . .</i>	29

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 10, "IFR En Route," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

GROUND LESSON 11: IFR FLIGHTS**Objective**

To further develop the pilot's knowledge of basic cross-country flight planning procedures.

Additionally, the pilot will review applicable regulations and procedures for IFR flight operations and the use and interpretation of IFR en route and instrument approach procedure charts.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (review as necessary)

Instrument Pilot FAA Knowledge Test, Study Unit 11, "IFR Flights" (79 pages)

<i>Instrument Pilot Flight Maneuvers</i> Part III Contents (Review)	Pages	<i>Instrument Pilot FAA Knowledge Test</i> Study Unit 11 Contents	No. of Questions
<i>I. Preflight Preparation</i>	87-156	<i>11.1 GJT to DRO</i>	8
<i>II. Preflight Procedures</i>	157-214	<i>11.2 MFR to EUG</i>	12
<i>III. Air Traffic Control Clearances and</i> <i>Procedures</i>	215-260	<i>11.3 YKM to PDX</i>	18
<i>IV. Flight by Reference to Instruments</i>	261-312	<i>11.4 SBA to PRB</i>	12
<i>V. Navigation Systems</i>	313-358	<i>11.5 HOT to ADS</i>	13
<i>VI. Instrument Approach Procedures</i>	359-476	<i>11.6 21XS to DFW</i>	13
<i>VII. Emergency Operations</i>	477-494	<i>11.7 4N1 to BDL</i>	13
<i>VIII. Postflight Procedures</i>	495-502	<i>11.8 HLN to BIL</i>	16

Completion Standards

The lesson will have been successfully completed when the pilot answers the questions in Study Unit 11, "IFR Flights," of *Instrument Pilot FAA Knowledge Test*, FAA Test Prep Online, and/or Online Ground School with a minimum passing grade of 80%.

	Dates Studied					Date Completed
<i>Instrument Pilot Flight Maneuvers</i>	_____	_____	_____	_____	_____	_____
<i>Instrument Pilot FAA Knowledge Test</i>	_____	_____	_____	_____	_____	_____

Notes:

STAGE THREE KNOWLEDGE TEST**Objective**

To evaluate the pilot's understanding of the material presented during Ground Lesson 8 through Ground Lesson 11. Stage Three knowledge test consists of 20 questions.

Content

<u>Lesson</u>	(Lessons 1-4 were Stage One and Lessons 5-7 were Stage Two.)
8	Aviation Weather
9	Aviation Weather Services
10	IFR En Route
11	IFR Flights

Completion Standards

The lesson will have been successfully completed when the pilot has completed the Stage Three knowledge test with a minimum passing grade of 80%.

Date of test: _____

Score: _____

Date of review: _____

Pilot Initials Instructor Initials

Photocopy this page and place in pilot's folder _____.
initials

END-OF-COURSE KNOWLEDGE TEST**Objective**

To evaluate the pilot's comprehension of the material covered in the ground training course and to determine the pilot's readiness to take the FAA instrument rating (airplane) knowledge test. The end-of-course knowledge test consists of 60 questions.

Content

Practice Instrument Rating Knowledge Test

Completion Standards

The lesson will have been successfully completed when the pilot has completed the practice instrument rating (airplane) knowledge test with a minimum passing grade of 80%.

Date of test: _____

Score: _____

Date of review: _____

Date of endorsement
for knowledge test: _____

Pilot Initials Instructor Initials

Photocopy this page and place in pilot's folder _____.
initials

ONLINE GROUND SCHOOL

Pass Your FAA Knowledge Test. **Guaranteed!**



ORDER NOW!
\$99.95 per course



Study for the written test and prepare for real-world flying.
Increase safety, understanding, and confidence.
Save time and money.

Need help? Ask Gleim!

Our expert CFIs can assist with your flight training and testing questions.

Sport • Private • Instrument • Commercial • Flight/Ground Instructor
Fundamentals of Instructing • ATP • Flight Engineer

GleimAviation.com • 800.874.5346

INSTRUMENT RATING FLIGHT TRAINING SYLLABUS AIRPLANE SINGLE-ENGINE LAND

<i>Flight Training Course Objectives</i>	38
<i>Flight Training Course Completion Standards</i>	38
<i>Stage One</i>	40
<i>Flight Lesson 1: Attitude Instrument Flying</i>	41
<i>Flight Lesson 2: Instrument Takeoff, Steep Turns, and Airspeed Changes</i>	42
<i>Flight Lesson 3: Rate Climbs/Descents, Timed Turns, and Magnetic Compass Turns</i>	43
<i>Flight Lesson 4: Partial-Panel Flying</i>	44
<i>Flight Lesson 5: Attitude Instrument Flying (review)</i>	45
<i>Flight Lesson 6: Partial-Panel Flying (review)</i>	46
<i>Flight Lesson 7: Basic Instrument Flight Patterns</i>	47
<i>Flight Lesson 8: VOR/VORTAC Procedures</i>	48
<i>Flight Lesson 9: VOR Time/Distance to Station and DME Arcs</i>	49
<i>Flight Lesson 10: GPS Procedures</i>	50
<i>Flight Lesson 11: GPS Procedures Advanced</i>	51
<i>Flight Lesson 12: Tracking the Localizer</i>	52
<i>Flight Lesson 13: Stage One Check</i>	53
<i>Stage Two</i>	54
<i>Flight Lesson 14: VOR Holding</i>	55
<i>Flight Lesson 15: GPS Holding</i>	56
<i>Flight Lesson 16: Localizer Holding</i>	57
<i>Flight Lesson 17: DME and Intersection Holding</i>	58
<i>Flight Lesson 18: VOR Instrument Approach</i>	59
<i>Flight Lesson 19: GPS Instrument Approaches</i>	60
<i>Flight Lesson 20: Localizer Instrument Approach</i>	61
<i>Flight Lesson 21: ILS Instrument Approach</i>	62
<i>Flight Lesson 22: Instrument Approaches (review)</i>	63
<i>Flight Lesson 23: Stage Two Check</i>	64
<i>Stage Three</i>	65
<i>Flight Lesson 24: Cross-Country and Emergency Procedures</i>	66
<i>Flight Lesson 25: Cross-Country Procedures</i>	67
<i>Flight Lesson 26: Cross-Country Procedures</i>	68
<i>Flight Lesson 27: Maneuvers Review</i>	69
<i>Flight Lesson 28: Stage Three Check</i>	70
<i>Flight Lesson 29: End-of-Course Test</i>	71

FLIGHT TRAINING COURSE OBJECTIVES

The pilot will obtain the aeronautical knowledge and experience and demonstrate the flight proficiency necessary to meet the requirements for an instrument rating with an airplane category rating.

FLIGHT TRAINING COURSE COMPLETION STANDARDS

The pilot will demonstrate through the stage checks and school records that (s)he has the necessary flight proficiency and aeronautical experience to obtain an instrument rating with an airplane category rating.

Lesson	Topic	Number of Pages in “New Item” Reading Assignment
Stage One		
1	Attitude Instrument Flying	36
2	Instrument Takeoff, Steep Turns, and Airspeed Changes	63
3	Rate Climbs/Descents, Timed Turns, and Magnetic Compass Turns	12
4	Partial-Panel Flying	32
5	Attitude Instrument Flying (review)	*
6	Partial-Panel Flying (review)	15
7	Basic Instrument Flight Patterns	11
8	VOR/VORTAC Procedures	15
9	VOR Time/Distance to Station and DME Arcs	7
10	GPS Procedures	12
11	GPS Procedures Advanced	*
12	Tracking the Localizer	8
13	Stage One Check	*
		211
Stage Two		
14	VOR Holding	29
15	GPS Holding	13
16	Localizer Holding	2
17	DME and Intersection Holding	3
18	VOR Instrument Approach	50
19	GPS Instrument Approaches	19
20	Localizer Instrument Approach	13
21	ILS Instrument Approach	40
22	Instrument Approaches (review)	2
23	Stage Two Check	*
		171
Stage Three		
24	Cross-Country and Emergency Procedures	123
25	Cross-Country Procedures	*
26	Cross-Country Procedures	*
27	Maneuvers Review	*
28	Stage Three Check	*
29	End-of-Course Test	*
		123

*Reading assignment consists of review only, no new materials.

The following is a brief description of the parts of each flight lesson in this syllabus:

Objective: We open each lesson with an objective, usually a sentence or two, to help you gain perspective and understand the goal for that particular lesson.

Text References: This section tells you which reference books you will need to study or refer to while mastering the tasks within the lesson. Abbreviations are given to facilitate the cross-referencing process.

Content: Each lesson contains a list of the tasks required to be completed before moving to the next lesson. A task may be listed as a “review item” (a task that was covered in a previous lesson) or as a “new item” (a task that is introduced to you for the first time).

Each task is preceded by three blank “checkoff” boxes which may be used by your instructor to keep track of your progress and to indicate that each task was completed. There are three boxes because it may take more than one flight to complete the lesson. Your instructor may mark the box(es) next to each task in one of the following methods (or any other method desired):

✓ - task completed to lesson completion standards	D - demonstrated by instructor * A - accomplished by you S - safe/satisfactory C - meets ACS standards	1 - above lesson standard 2 - meets lesson standard 3 - below lesson standard
---	---	---

Most tasks are followed by book and page references that tell you where to find the information you need to study to accomplish the task successfully.

The last task in each flight lesson is labeled “Additional items at CFI’s discretion” and is followed by several blank lines. This area can be used to record any extra items that your instructor feels are appropriate to the lesson, taking into account such variables as weather, local operational considerations, and your progress as a student.

NOTE: Instructors are reminded not to limit themselves to the blank lines provided—use as much of the page as you need.

Completion Standards: Based on these standards, your instructor determines how well you have met the objective of the lesson in terms of knowledge and skill.

Instructor’s Comments and Lesson Assignment: Space is provided for your instructor’s critique of the lesson, which you can refer to later. Your instructor may also write any specific assignment for the next lesson.

*System suggested by the U.S. Air Force flying clubs

141 Flight School Signoff	
School Name _____	
Chief Flight Instructor _____	
Assistant Chief Flight Instructor _____	

Reading Assignments for Flight Lessons

You are expected to be prepared for each flight lesson. Our reading assignments will help you understand what is going to happen as well as how and why you need to do everything BEFORE you go to the airport.

Each flight lesson in this book contains

- Objective
- Text references
- Content
 - ✓ Review items
 - ✓ New items
- Completion standards
- Comments and pilot/instructor certification

Next to each item in the Content section, we have provided the page number(s) to read in this book (SYL) and *Instrument Pilot Flight Maneuvers and Practical Test Prep* (FM), and the section to read, if appropriate, in your airplane's Pilot's Operating Handbook (POH).

For the new items, you should read the material and attempt to understand the basic concepts. Try to anticipate and visualize the concepts and flight maneuvers. With this basic knowledge, your instructor can expand on the specific and finer points, especially when explaining how a task is done in your specific airplane.

After your flight lesson, task items are fresh in your mind; they will make sense, and you should be able to understand and learn more.

Study review items so you can explain them to your instructor and, at the completion of this syllabus, to your evaluator.

After you study, relax and plan a time to begin reading to prepare for the next flight lesson.

STAGE ONE

Stage One Objective

The pilot will be able to precisely control the airplane using basic attitude instrument flying skills and the airplane's navigation systems.

Stage One Completion Standards

The stage will be completed when the pilot satisfactorily passes the Stage One check and is able to precisely control the airplane using basic attitude instrument flying skills under full- and partial-panel instrument panel conditions. Additionally, the pilot will be able to fly a predetermined course using the airplane's navigation systems.

<u>Lesson</u>	<u>Topic</u>
Stage One	
1	Attitude Instrument Flying
2	Instrument Takeoff, Steep Turns, and Airspeed Changes
3	Rate Climbs/Descents, Timed Turns, and Magnetic Compass Turns
4	Partial-Panel Flying
5	Attitude Instrument Flying (review)
6	Partial-Panel Flying (review)
7	Basic Instrument Flight Patterns
8	VOR/VORTAC Procedures
9	VOR Time/Distance to Station and DME Arcs
10	GPS Procedures
11	GPS Procedures Advanced
12	Tracking the Localizer
13	Stage One Check

FLIGHT LESSON 1: ATTITUDE INSTRUMENT FLYING

FSTD/ATD option

Objective

To introduce basic attitude instrument flying and to develop the pilot's proficiency and confidence in flying the airplane solely by reference to instruments.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Preflight briefing
2. New items

☐	☐	☐	Attitude instrument flying - FM 264-268
☐	☐	☐	Airplane flight instruments - FM 264-268; POH-7
☐	☐	☐	Straight-and-level flight - FM 271-274
☐	☐	☐	Change of airspeed - FM 275-281
☐	☐	☐	Constant airspeed climbs and descents - FM 282-290
☐	☐	☐	Standard rate turns - CFII
☐	☐	☐	Maneuvering during slow flight - CFII
☐	☐	☐	Power-off stall - CFII
☐	☐	☐	Power-on stall - CFII
☐	☐	☐	Recovery from unusual flight attitudes - FM 303-312
☐	☐	☐	Use of checklists - POH-4
☐	☐	☐	Radio communications - CFII
☐	☐	☐	Additional items at CFI's discretion _____

3. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates an understanding of attitude instrument flying as related to airplane control. The pilot will maintain airplane control at all times and maintain the desired altitude, ± 200 ft.; airspeed, ± 10 kt.; and heading, $\pm 15^\circ$.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 2: INSTRUMENT TAKEOFF, STEEP TURNS, AND AIRSPEED CHANGES

FSTD/ATD option

Objective

To introduce the pilot to IFR preflight, instrument takeoff, change of airspeed, steep turns, and postflight procedures and to increase the pilot's proficiency in attitude instrument flying.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 1 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Airplane flight instruments - FM 167-198; POH-7
 - ☐☐☐ Use of checklists - POH-4
 - ☐☐☐ Radio communications - CFII
 - ☐☐☐ Attitude instrument flying - FM 264-268
 - ☐☐☐ Straight-and-level flight - FM 271-274
 - ☐☐☐ Change of airspeed - FM 275-281
 - ☐☐☐ Standard rate turns - CFII
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290
 - ☐☐☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐☐☐ Maneuvering during slow flight - CFII
 - ☐☐☐ Power-off stall - CFII
 - ☐☐☐ Power-on stall - CFII
4. New items
 - ☐☐☐ IFR preflight inspection - CFII
 - ☐☐☐ Airplane systems related to IFR operations - FM 159-162
 - ☐☐☐ Airplane navigation equipment - FM 167-198; POH-9
 - ☐☐☐ Instrument cockpit check - FM 199-213
 - ☐☐☐ Instrument takeoff - FM 503-506
 - ☐☐☐ Steep turns - CFII
 - ☐☐☐ IFR postflight procedures - FM 495-502
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot displays an understanding of IFR preflight and postflight procedures, the instrument cockpit check, and the instrument takeoff procedures. The pilot will demonstrate increased proficiency in attitude instrument flying. The pilot will be able to maintain the desired altitude, ± 200 ft.; airspeed, ± 10 kt.; and heading, $\pm 15^\circ$.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 3: RATE CLIMBS/DESCENTS, TIMED TURNS, AND MAGNETIC COMPASS TURNS

FSTD/ATD option

Objective

To introduce the pilot to constant rate climbs and descents, timed turns to magnetic compass headings, and magnetic compass turns. Additionally, this lesson will increase the pilot's proficiency in attitude instrument flying.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 2 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐ ☐ ☐ IFR preflight inspection - CFII
 - ☐ ☐ ☐ Airplane systems related to IFR operations - FM 159-162
 - ☐ ☐ ☐ Airplane flight instruments and navigation equipment - FM 167-199; POH-9
 - ☐ ☐ ☐ Instrument cockpit check - FM 199-213
 - ☐ ☐ ☐ Straight-and-level flight - FM 271-274
 - ☐ ☐ ☐ Standard rate turns - CFII
 - ☐ ☐ ☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐ ☐ ☐ Slow flight - CFII
 - ☐ ☐ ☐ Power-off stall - CFII
 - ☐ ☐ ☐ Steep turns - CFII
 - ☐ ☐ ☐ IFR postflight procedures - FM 495-502
4. New items
 - ☐ ☐ ☐ Rate climbs and descents - FM 291-297
 - ☐ ☐ ☐ Timed turns to magnetic compass headings - FM 298-302
 - ☐ ☐ ☐ Magnetic compass turns - FM 298-302
 - ☐ ☐ ☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot displays an understanding of how to perform rate climbs and descents, calibrate the turn coordinator for timed turns, and make turns to headings by use of a timed turn or the magnetic compass. Additionally, the pilot will demonstrate increased proficiency in attitude instrument flying. The pilot will be able to maintain the desired altitude, ± 150 ft.; airspeed, ± 10 kt.; and heading, $\pm 15^\circ$.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 5: ATTITUDE INSTRUMENT FLYING (REVIEW)**Objective**

To review previous lessons to gain proficiency in full- and partial-panel attitude instrument flying.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 4 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - a. Full-panel attitude instrument flight
 - ☐☐☐ IFR preflight inspection - CFII
 - ☐☐☐ Airplane systems related to IFR operations - FM 159-162
 - ☐☐☐ Airplane flight instruments and navigation equipment - FM 167-199; POH-9
 - ☐☐☐ Instrument cockpit check - FM 199-213
 - ☐☐☐ Instrument takeoff - FM 503-506
 - ☐☐☐ Straight-and-level flight - FM 271-274
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290
 - ☐☐☐ Rate climbs and descents - FM 291-297
 - ☐☐☐ Standard rate turns - CFII
 - ☐☐☐ Steep turns - CFII
 - ☐☐☐ Change of airspeed - FM 275-281
 - ☐☐☐ Maneuvering during slow flight - CFII
 - ☐☐☐ Stalls - CFII
 - ☐☐☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐☐☐ IFR postflight procedures - FM 495-502
 - b. Partial-panel attitude instrument flight
 - ☐☐☐ Straight-and-level flight - FM 271-274
 - ☐☐☐ Magnetic compass turns - FM 298-302
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290
 - ☐☐☐ Rate climbs and descents - FM 291-297
4. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates smooth, coordinated control of the airplane during full-panel attitude instrument flight. Additionally, the pilot will demonstrate increased understanding of partial-panel operations. The pilot will be able to maintain the desired altitude, ± 150 ft.; airspeed, ± 10 kt.; heading, $\pm 15^\circ$; angle of bank, $\pm 5^\circ$; and climb/descent rate, ± 200 fpm; to roll out on the desired heading, $\pm 15^\circ$; and to level off at the desired altitude, ± 150 ft. Recovery procedures from stalls and unusual attitudes should be done correctly, with the successful outcome never seriously in doubt.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 6: PARTIAL-PANEL FLYING (REVIEW)

Objective

To increase the pilot's proficiency in partial-panel attitude instrument flying and to introduce the pilot to more complex partial-panel procedures.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 5 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items (partial panel)
 - ☐☐☐ Straight-and-level flight - FM 271-274
 - ☐☐☐ Magnetic compass turns - FM 298-302
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290

4. New items (partial panel)
 - ☐☐☐ Timed turns to magnetic compass headings - FM 298-302
 - ☐☐☐ Maneuvering during slow flight - CFII
 - ☐☐☐ Stalls - CFII
 - ☐☐☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐☐☐ Additional items at CFI's discretion _____

5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot displays an understanding of the correct recovery procedures during stalls and unusual attitudes without overcontrolling during partial-panel operations. Additionally, the pilot will demonstrate increased proficiency in partial-panel attitude instrument flight.

Instructor's comments: _____

Lesson assignment: _____

[illegible]

FLIGHT LESSON 7: BASIC INSTRUMENT FLIGHT PATTERNS

FSTD/ATD option

Objective

To further develop the pilot's ability to precisely control the airplane during attitude instrument flying by combining previously learned maneuvers. This will be accomplished by introducing the pilot to the FAA's various basic instrument flight patterns.

Text References

Instrument Pilot Flight Maneuvers (IPFM)

Content

1. Flight Lesson 6 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. New items

☐	☐	☐	Pattern "A" - FM 506-508
☐	☐	☐	Pattern "B" - FM 509-510
☐	☐	☐	Vertical S - FM 510-511
☐	☐	☐	Vertical S-1 - FM 511
☐	☐	☐	Vertical S-2 - FM 512
☐	☐	☐	80/260 procedure turn - FM 512
☐	☐	☐	Standard procedure turn - FM 516
☐	☐	☐	Teardrop holding pattern entry - FM 513
☐	☐	☐	Holding pattern - FM 515
☐	☐	☐	Patterns applicable to circling approaches - FM 514
☐	☐	☐	Additional items at CFI's discretion _____
4. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot displays an understanding of the various basic instrument flight patterns. The pilot will be able to maintain the desired altitude, ± 150 ft.; airspeed, ± 10 kt.; and heading, $\pm 15^\circ$; to roll out on the specified heading, $\pm 15^\circ$; and to maintain the desired rate of climb/descent, ± 200 fpm.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 8: VOR/VORTAC PROCEDURES

FSTD/ATD option

NOTE: For the remainder of this syllabus, the term VOR will be used to include VOR, VORTAC, and VOR/DME stations.

Objective

To develop the pilot's ability to determine the airplane's position in relation to a VOR station and to intercept and track a predetermined radial.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 7 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290
 - ☐☐☐ Pattern "A" (partial panel) - FM 506-508
 - ☐☐☐ Vertical S - FM 510-511
 - ☐☐☐ Teardrop holding pattern entry - FM 513
 - ☐☐☐ Recovery from unusual flight attitudes (partial panel) - FM 303-312
4. New items
 - ☐☐☐ VOR accuracy test - FM 201-202
 - ☐☐☐ VOR orientation - FM 177-178, 201
 - ☐☐☐ Intercepting and tracking a VOR radial - FM 322-332
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot displays an understanding of VOR orientation and of intercepting and tracking predetermined radials. Additionally, the pilot will demonstrate increased proficiency in attitude instrument flight. The pilot will be able to maintain the desired altitude, ± 150 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 9: VOR TIME/DISTANCE TO STATION AND DME ARCS

FSTD/ATD option

Objective

To introduce the pilot to VOR time and distance calculations and the interception and tracking of DME arcs, if the airplane is DME equipped. Additionally, the pilot will gain more proficiency in VOR orientation, radial interception, and tracking.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 8 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Pattern "B" - FM 509-510
 - ☐☐☐ Vertical S-2 - FM 512
 - ☐☐☐ Holding pattern - FM 515
 - ☐☐☐ VOR accuracy test - FM 201-202
 - ☐☐☐ VOR orientation - FM 177-178, 201
 - ☐☐☐ Intercepting and tracking a VOR radial - FM 322-332
4. New items
 - ☐☐☐ VOR time and distance calculations - FM 517-518
 - ☐☐☐ Intercepting and tracking DME arcs (if the airplane is DME equipped) - FM 315-319
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of VOR time and distance calculations and how to intercept and track a DME arc (if the airplane is DME equipped). Additionally, the pilot will demonstrate increased proficiency in VOR orientation, intercepting and tracking VOR radials, and attitude instrument flight. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$; and to track a radial allowing no more than a 3/4-scale deflection of the course deviation indicator (CDI) or remaining within 10° in the case of an RMI.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 10: GPS PROCEDURES

FSTD/ATD option

NOTE: In this lesson and throughout the remainder of this syllabus, any reference to DME arcs or GPS shall be disregarded if the airplane is not equipped with these specified navigational systems.

Objective

To introduce the pilot to GPS orientation and the method used to track a GPS course. Additionally, the pilot will increase proficiency in VOR procedures.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 9 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Basic instrument flight patterns (as directed by your instructor) - FM 512-516
 - ☐☐☐ VOR orientation - FM 177-178, 328-332
 - ☐☐☐ VOR time and distance calculations - FM 517-518
 - ☐☐☐ Intercepting and tracking VOR radials and DME arcs - FM 315-319
4. New items
 - ☐☐☐ GPS orientation - FM 186-188
 - ☐☐☐ Tracking a GPS course - FM 324-332
 - ☐☐☐ Intercepting a course, tracking, and DME arcs using GPS - FM 329-331, POH
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of GPS orientation, the method used to track a GPS course, and the method used to intercept, track, and fly a DME arc using GPS. Additionally, the pilot will demonstrate increased proficiency in VOR procedures. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; heading, $\pm 10^\circ$; and DME arc, ± 2 NM; and to track a VOR radial with no more than a 3/4-scale deflection of the CDI or within 10° in the case of an RMI.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 11: GPS PROCEDURES ADVANCED

FSTD/ATD option

Objective

The pilot will increase proficiency in GPS orientation, tracking a GPS course, and flying a DME arc using GPS. The pilot will also learn advanced programming functions specific to the equipment installed in their aircraft.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 10 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Basic instrument flight patterns (as directed by your instructor) - FM 512-516
 - ☐☐☐ GPS orientation - FM 186-188
 - ☐☐☐ Tracking a GPS course - FM 324-332
 - ☐☐☐ Intercepting a course, tracking, and DME arcs using GPS - POH
4. New items
 - ☐☐☐ GPS advanced programming - POH
 - ☐☐☐ Automation management - FM 75-78
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of flying a DME arc using GPS. The pilot will also demonstrate increased proficiency in GPS orientation, tracking a GPS course, and flying a DME arc using GPS. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; heading, $\pm 10^\circ$; and GPS CDI with no more than 3/4-scale deflection.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 13: STAGE ONE CHECK**Objective**

During this stage check, an authorized flight instructor will determine if the pilot is proficient in attitude instrument flying and in the use of navigation equipment.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 12 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Stage check tasks
 - a. Preflight procedures
 - ☐ ☐ ☐ Airplane systems related to IFR operations - FM 159-162
 - ☐ ☐ ☐ Airplane flight instruments and navigation equipment - FM 167-199; POH-9
 - ☐ ☐ ☐ Instrument cockpit check - FM 199-213
 - b. Attitude instrument flying -- full and partial panel unless otherwise indicated
 - ☐ ☐ ☐ Straight-and-level flight - FM 271-274
 - ☐ ☐ ☐ Change of airspeed - FM 275-281
 - ☐ ☐ ☐ Constant airspeed climbs and descents - FM 282-290
 - ☐ ☐ ☐ Rate climbs and descents - FM 291-297
 - ☐ ☐ ☐ Timed turns to magnetic compass headings - FM 298-302
 - ☐ ☐ ☐ Magnetic compass turns (partial panel only) - FM 298-302
 - ☐ ☐ ☐ Steep turns (full panel only) - CFII
 - ☐ ☐ ☐ Recovery from unusual flight attitudes - FM 303-312
 - c. Navigation systems
 - ☐ ☐ ☐ Intercepting and tracking VOR radials - FM 322-332
 - ☐ ☐ ☐ Intercepting and tracking DME arcs - FM 315-319
 - ☐ ☐ ☐ Tracking a GPS course - FM 324-332
 - ☐ ☐ ☐ Tracking a localizer - FM 180-184, 384-386
 - ☐ ☐ ☐ Additional items at CFI's discretion _____
4. Postflight critique and preview of next lesson

Completion Standards

The lesson and Stage One will have been successfully completed when the pilot can demonstrate proficiency in attitude instrument flights (full and partial panel) and navigation procedures. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; heading, $\pm 5^\circ$; rate of climb, ± 100 fpm; DME arc, ± 2 NM; to roll out on the desired heading, $\pm 10^\circ$; and to track a VOR radial or a GPS course with no more than a 3/4-scale deflection of the CDI or within 10° in the case of an RMI.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

STAGE TWO**Stage Two Objective**

The pilot will be introduced to holding procedures and instrument approach procedures, including missed approaches.

Stage Two Completion Standards

The stage will be completed when the pilot demonstrates proficiency in holding procedures using various navigation systems and all types of instrument approach procedures.

<u>Lesson</u>	<u>Topic</u>
	Stage Two
14	VOR Holding
15	GPS Holding
16	Localizer Holding
17	DME and Intersection Holding
18	VOR Instrument Approach
19	GPS Instrument Approaches
20	Localizer Instrument Approach
21	ILS Instrument Approach
22	Instrument Approaches (Review)
23	Stage Two Check

FLIGHT LESSON 14: VOR HOLDING

FSTD/ATD option

Objective

To introduce the pilot to holding procedures at a VOR station, including ATC clearances and holding instructions and holding pattern entry procedures and use of autopilot for holding (if equipped).

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 13 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Airplane systems related to IFR operations - FM 159-162
 - ☐☐☐ Instrument cockpit check - FM 199-213
 - ☐☐☐ Instrument takeoff - FM 503-506
 - ☐☐☐ Intercepting and tracking VOR radials - FM 322-332
 - ☐☐☐ Loss of primary flight instrument indicators - FM 487-493
4. New items
 - ☐☐☐ Tracking VOR radials (partial panel) - FM 322-332
 - ☐☐☐ ATC clearances and holding instructions - FM 217-230
 - ☐☐☐ Holding pattern entry procedures - FM 245-246
 - ☐☐☐ Parallel procedure
 - ☐☐☐ Teardrop procedure
 - ☐☐☐ Direct entry procedure
 - ☐☐☐ VOR holding procedures - FM 250-251
 - ☐☐☐ Standard pattern
 - ☐☐☐ Nonstandard pattern
 - ☐☐☐ Use of autopilot for holding (if equipped) - POH
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of ATC holding instructions, holding pattern entry procedures, and the procedures to remain in the holding pattern. Additionally, the pilot will demonstrate increased knowledge in systems related to IFR operations and proficiency in the instrument cockpit check and partial-panel instrument flight. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 15: GPS HOLDING

FSTD/ATD option

Objective

To introduce the pilot to GPS holding procedures and use of autopilot for holding (if equipped). Additionally, the pilot will increase proficiency in VOR holding and complying with ATC clearances and holding instructions.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 14 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ ATC clearances and holding instructions - FM 217-230
 - ☐☐☐ Holding pattern entry procedures - FM 245-246
 - ☐☐☐ Parallel procedure
 - ☐☐☐ Teardrop procedure
 - ☐☐☐ Direct entry procedure
 - ☐☐☐ VOR holding procedures - FM 250-251
 - ☐☐☐ Loss of primary flight instrument indicators - FM 487-493
 - ☐☐☐ Use of autopilot for holding (if equipped) - POH
4. New items
 - ☐☐☐ Tracking GPS courses (partial panel) - FM 324-325, 490-493
 - ☐☐☐ GPS holding procedures (if equipped) - FM 253-259
 - ☐☐☐ Standard pattern
 - ☐☐☐ Nonstandard pattern
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of GPS holding procedures. Additionally, the pilot will demonstrate increased proficiency in copying and complying with ATC holding instructions, entries to holding, and VOR holding procedures. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$, and to track a selected course or radial.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 16: LOCALIZER HOLDING

FSTD/ATD option

Objective

To introduce the pilot to localizer holding procedures and use of autopilot for holding (if equipped). Additionally, the pilot will increase proficiency in holding pattern procedures through the practice of VOR and GPS holding.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 15 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Airplane systems related to IFR operations - FM 159-162
 - ☐☐☐ Instrument cockpit check - FM 199-213
 - ☐☐☐ ATC holding instructions - FM 217-230
 - ☐☐☐ Holding pattern entry procedures - FM 241-247
 - ☐☐☐ VOR holding procedures - FM 250-251
 - ☐☐☐ GPS holding procedures - FM 253-259
 - ☐☐☐ Use of autopilot for holding (if equipped) - POH
4. New items
 - ☐☐☐ Localizer holding procedures - FM 250-251
 - ☐☐☐ Standard pattern
 - ☐☐☐ Nonstandard pattern
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate an understanding of localizer holding procedures. Additionally, the pilot will demonstrate greater proficiency in holding pattern entry procedures and VOR and GPS holding procedures. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$; and to track a selected course or radial.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 17: DME AND INTERSECTION HOLDING

FSTD/ATD option

Objective

To introduce the pilot to DME holding and intersection holding procedures. Additionally, the pilot's proficiency in other holding procedures is increased through practice.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 16 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ ATC holding instructions - FM 217-230
 - ☐☐☐ Holding pattern entry procedures - FM 241-247
 - ☐☐☐ VOR holding procedures - FM 250-251
 - ☐☐☐ GPS holding procedures - FM 253-259
 - ☐☐☐ Localizer holding procedures - FM 250-251
 - ☐☐☐ Use of autopilot for holding (if equipped) - POH
4. New items
 - ☐☐☐ DME holding procedures - FM 255
 - ☐☐☐ Holding course away from the VORTAC or VOR/DME
 - ☐☐☐ Holding course toward the VORTAC or VOR/DME
 - ☐☐☐ Intersection holding - FM 250-251
 - ☐☐☐ Intersection defined by two VOR radials
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

This lesson will have been successfully completed when the pilot can demonstrate an understanding of DME holding and intersection holding. Additionally, the pilot will demonstrate increased proficiency in VOR, GPS, and localizer holding procedures. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$; and to track the desired radial or course.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 18: VOR INSTRUMENT APPROACH

FSTD/ATD option

Objective

To introduce the pilot to VOR instrument approach procedures, including ATC clearances that pertain to the approach. Additionally, the pilot will be able to properly enter the holding pattern depicted for the approach(es).

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 17 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review item
 - ☐☐☐ Holding procedures - FM 217-230, 241-247
4. New items
 - ☐☐☐ Segments of an instrument approach - FM 359-361
 - ☐☐☐ Instrument approach procedure charts - FM 363-368
 - ☐☐☐ Airplane approach category - FM 369
 - ☐☐☐ Procedure turn - FM 370-371
 - ☐☐☐ Advance information on instrument approach - FM 362-363
 - ☐☐☐ Full approach - CFII
 - ☐☐☐ Radar vectoring - FM 361-362
 - ☐☐☐ ATC approach clearances - FM 368
 - ☐☐☐ Inoperative airplane and ground navigation equipment - FM 394
 - ☐☐☐ Inoperative visual aids associated with the landing environment - FM 394
 - ☐☐☐ National Weather Service (NWS) reporting factors and criteria - FM 395
 - ☐☐☐ VOR, VOR/DME, VORTAC instrument approach procedures (full approach) - FM 390-397
 - ☐☐☐ DME arc - FM 315-316
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Circling approach - FM 455-462
 - ☐☐☐ Landing from an instrument approach - FM 463-475
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can explain and use the information on the approach charts, understand and comply with ATC approach clearances, and execute the approach and missed approach procedures. The pilot will be able to maintain altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$, with no more than a 3/4-scale deflection of the CDI, or within 10° in the case of an RMI, throughout the approach. Additionally, the pilot will demonstrate the proper holding pattern entry procedure and proper timing criteria or leg lengths, as appropriate.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 19: GPS INSTRUMENT APPROACHES

FSTD/ATD option

Objective

To introduce the pilot to GPS approach procedures. Additionally, the pilot will increase proficiency in VOR approach procedures.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 18 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Segments of an instrument approach - FM 359-361
 - ☐☐☐ ATC approach clearances - FM 368
 - ☐☐☐ Holding procedures - FM 241-260
 - ☐☐☐ VOR instrument approach - FM 390-397
 - ☐☐☐ Circling approach - FM 455-462
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Landing from an instrument approach - FM 463-475
 - ☐☐☐ Automation management - FM 75-78
4. New items
 - ☐☐☐ GPS receiver autonomous integrity monitoring (RAIM) - FM 144-145, 186-188
 - ☐☐☐ GPS instrument approach design concepts - FM 381-383
 - ☐☐☐ GPS instrument approach procedures - FM 398-408
 - ☐☐☐ WAAS approach (if equipped and available)
 - ☐☐☐ Full approach
 - ☐☐☐ Radar vectors
 - ☐☐☐ Missed approach
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate the proper GPS approach and the missed approach procedures. The pilot will demonstrate an increased proficiency in holding, VOR approaches, circling approach procedures, and landing from an instrument approach. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; heading, $\pm 10^\circ$; and to maintain the GPS course (including vertical guidance if WAAS-equipped) with no more than a 3/4-scale deflection of the CDI.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 20: LOCALIZER INSTRUMENT APPROACH

FSTD/ATD option

Objective

To introduce the pilot to localizer instrument approach procedures. Additionally, the pilot will increase proficiency in VOR and GPS approaches.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 19 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ VOR instrument approach (partial panel) - FM 390-397, 487-493
 - ☐☐☐ GPS instrument approach - FM 381-383, 398-408
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Circling approach - FM 455-462
 - ☐☐☐ Landing from an instrument approach - FM 463-475
 - ☐☐☐ Recovery from unusual flight attitudes (without attitude indicator) - FM 303-312
 - ☐☐☐ Use of autopilot during approach (if equipped) - POH
4. New items
 - ☐☐☐ Localizer instrument approach - FM 384-385, 409-417, 419-420
 - ☐☐☐ Missed approach
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate knowledge in localizer instrument approach procedures. The pilot will be able to maintain the desired airspeed, ± 10 kt.; heading, $\pm 10^\circ$; and GPS CDI with no more than a 3/4-scale deflection. Prior to beginning the final approach segment, the pilot will maintain altitude, ± 100 ft., and, while on the final approach segment, descend and maintain the MDA, $+100/-50$ ft. Additionally, the pilot will display proficiency in recovery from unusual flight attitudes.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 21: ILS INSTRUMENT APPROACH

FSTD/ATD option

Objective

To introduce the pilot to the ILS instrument approach procedures. Additionally, the pilot will increase proficiency in GPS and localizer instrument approaches using full and partial panel.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 20 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ GPS instrument approach (partial panel) - FM 381-383, 398-408, 487-493
 - ☐☐☐ Localizer instrument approach - FM 384-385, 409-417, 419-420
 - ☐☐☐ Recovery from unusual flight attitudes (without attitude indicator) - FM 303-312
4. New items
 - ☐☐☐ ILS instrument approach - FM 421-441
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Circling approach - FM 455-462
 - ☐☐☐ Use of autopilot during approach (if equipped) - POH
 - ☐☐☐ Proper autopilot management procedures (if equipped) - POH
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate knowledge in ILS instrument approach procedures. The pilot will display an increase in proficiency in conducting GPS and localizer instrument approaches, including partial-panel approaches. During the nonprecision approaches, the pilot will be able to

1. Maintain, prior to the beginning of the final approach segment, altitude, ± 100 ft.; heading, $\pm 10^\circ$; and airspeed, ± 10 kt.; with less than a full-scale deflection of the CDI or within 10° in the case of an RMI.
2. Arrive at the MDA prior to reaching the MAP.
3. Maintain, while on the final approach segment, no more than a 3/4-scale deflection of the CDI or within 10° in the case of an RMI; airspeed, ± 10 kt.; and altitude, $+100/-50$ ft.

Additionally, the pilot will display proficiency in recovery from unusual flight attitudes.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 22: INSTRUMENT APPROACHES (REVIEW)**Objective**

To review previous lessons to gain proficiency in instrument approaches (full and partial panel). Additionally, the pilot will be introduced to radar approaches (if available).

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 21 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ VOR instrument approach - FM 390-397, 487-493
 - ☐☐☐ Full panel
 - ☐☐☐ Partial panel
 - ☐☐☐ GPS instrument approach (precision and nonprecision) - FM 381-383, 398-408
 - ☐☐☐ Full panel
 - ☐☐☐ Partial panel
 - ☐☐☐ Localizer instrument approach - FM 384-385, 409-417, 419-420
 - ☐☐☐ Full panel
 - ☐☐☐ Partial panel
 - ☐☐☐ ILS instrument approach (if available) - FM 421-441
 - ☐☐☐ Full panel
 - ☐☐☐ Partial panel
 - ☐☐☐ Circling approach
 - ☐☐☐ Proper autopilot management procedures (if equipped) - POH
4. New items
 - ☐☐☐ Radar approaches (if available) - FM 374-375
 - ☐☐☐ Precision approach (PAR)
 - ☐☐☐ Surveillance approach (ASR)
 - ☐☐☐ No-gyro approach (partial panel)
 - ☐☐☐ Side-step maneuver - FM 375
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates an understanding of radar approaches and the side-step maneuver. Additionally, the pilot will demonstrate an increased proficiency in performing instrument approaches under both full- and partial-panel operations.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 23: STAGE TWO CHECK

Objective

During this stage check, an authorized instructor will determine if the pilot is proficient in holding procedures and instrument approach procedures.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 22 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Stage check tasks
 - ☐☐☐ Holding procedures using navigation equipment in airplane - FM 217-239, 241-260
 - ☐☐☐ ATC instructions and clearances relating to holding and approaches - FM 241-260, 368
 - ☐☐☐ Nonprecision approaches (instructor to select at least one to conduct under partial panel) - FM 379-420
 - ☐☐☐ VOR approach - FM 390-397
 - ☐☐☐ GPS approach - FM 381-383, 398-408
 - ☐☐☐ Localizer approach - FM 384-385, 409-417, 419-420
 - ☐☐☐ Precision approach - FM 421-441
 - ☐☐☐ Circling approach - FM 455-462
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Landing from an instrument approach - FM 463-475
 - ☐☐☐ Additional items at CFI's discretion _____
4. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot can demonstrate proficiency in holding procedures and instrument approach procedures to the standards listed in the current FAA Instrument Rating Airman Certification Standards.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

STAGE THREE

Stage Three Objective

The pilot will receive instruction in the proper procedures for cross-country flights in an airplane while operating under IFR within the U.S. National Airspace System. Additionally, the pilot will be instructed in the procedures to be used in the event of loss of communications. Finally, the pilot will receive instruction in preparation for the instrument rating (airplane) practical test.

Stage Three Completion Standards

The stage will be completed when the pilot demonstrates the ability to conduct cross-country flights in an airplane while operating under IFR, including the loss of communications procedures. Finally, the pilot will demonstrate proficiency in all tasks of the instrument rating (airplane) practical test and meet or exceed the minimum acceptable Airman Certification Standards for the instrument rating.

<u>Lesson</u>	<u>Topic</u>
Stage Three	
24	Cross-Country and Emergency Procedures
25	Cross-Country Procedures
26	Cross-Country Procedures
27	Maneuvers Review
28	Stage Three Check
29	End-of-Course Test

FLIGHT LESSON 24: CROSS-COUNTRY AND EMERGENCY PROCEDURES

FSTD/ATD option

Objective

To introduce the pilot to IFR cross-country procedures that include flight planning. Additionally, the pilot will be introduced to departure, en route, arrival, and loss of communications procedures.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 23 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Airplane systems related to IFR operations - FM 159-166
 - ☐☐☐ Airplane flight instruments and navigation equipment - FM 167-198; POH-9
 - ☐☐☐ Instrument cockpit check - FM 199-213
 - ☐☐☐ Instrument takeoff - FM 503-506
 - ☐☐☐ Intercepting and tracking navigational systems and DME arcs - FM 315-334
 - ☐☐☐ Holding procedures - FM 241-260
 - ☐☐☐ Arrival procedures - FM 359-378
 - ☐☐☐ Instrument approach procedures - FM 359-475
 - ☐☐☐ Loss of primary flight instrument indicators - FM 487-493
 - ☐☐☐ Postflight procedures - FM 495-502
4. New items
 - ☐☐☐ Weather information - FM 101-131
 - ☐☐☐ Cross-country flight planning - FM 133-156
 - ☐☐☐ Air traffic control clearances - FM 217-239
 - ☐☐☐ Departure, en route, and arrival operations - FM 335-358
 - ☐☐☐ Emergency operations
 - ☐☐☐ Loss of communications - FM 479-486
 - ☐☐☐ Instrument, system, equipment failures - POH-3, 9
 - ☐☐☐ Turbulence - POH-3
 - ☐☐☐ Icing awareness, recognition, correction, and prevention - FM 117-121, 134-135, 147, 159-166
 - ☐☐☐ Engine failure - POH-3
 - ☐☐☐ Low fuel status - CFII, POH-3
 - ☐☐☐ Calculating ETEs and ETAs - CFII
 - ☐☐☐ En route course changes - CFII
 - ☐☐☐ Additional items at CFI's discretion _____
5. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates an understanding of IFR flight planning; copying, readback, and compliance with ATC clearances; IFR departures and arrivals; and emergency operations. Additionally, the pilot will be able to calculate ETEs and ETAs and understand the reasons for course changes that are issued by ATC or requested due to weather conditions. The pilot will be able to maintain the desired altitude, ± 100 ft.; airspeed, ± 10 kt.; and heading, $\pm 10^\circ$; and to track a course or radial.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 26: CROSS-COUNTRY PROCEDURES**Objective**

To increase the pilot's proficiency in IFR cross-country operations. This cross-country flight must be performed under IFR and must be at least 250 NM along airways or ATC-directed routing with one segment of the flight consisting of at least a straight-line distance of 100 NM between airports. Additionally, it must involve an instrument approach at each airport and three different kinds of approaches with the use of navigation systems.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 25 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items
 - ☐☐☐ Weather information - FM 101-131
 - ☐☐☐ Cross-country flight planning - FM 133-156
 - ☐☐☐ Instrument takeoff - FM 503-506
 - ☐☐☐ Compliance with ATC clearances - FM 217-239
 - ☐☐☐ Holding procedures - FM 241-260
 - ☐☐☐ Precision approach - FM 421-441
 - ☐☐☐ Nonprecision approach (at least two different kinds of approaches) - FM 379-420
 - ☐☐☐ Missed approach - FM 443-453
 - ☐☐☐ Landing from an instrument approach - FM 463-475
 - ☐☐☐ Emergency operations (simulate)
 - ☐☐☐ Loss of communications - FM 479-486
 - ☐☐☐ Loss of primary flight instrument indicators - FM 487-493
 - ☐☐☐ Low fuel supply - CFII, POH-3
 - ☐☐☐ Engine failure - POH-3
 - ☐☐☐ Additional items at CFI's discretion _____
4. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates a thorough understanding of IFR procedures. The pilot will complete each task to the standards specified in the current FAA Instrument Rating Airman Certification Standards.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 27: MANEUVERS REVIEW**Objective**

To review procedures and maneuvers covered previously.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 26 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Review items

- | | | | |
|--------------------------|--------------------------|--------------------------|--|
| ☐ | ☐ | ☐ | Airplane systems related to IFR operations - FM 159-166 |
| ☐ | ☐ | ☐ | Airplane flight instruments and navigation equipment - FM 167-198, POH-9 |
| ☐ | ☐ | ☐ | Timed turns to magnetic compass headings - FM 298-302 |
| ☐ | ☐ | ☐ | Steep turns - CFI |
| ☐ | ☐ | ☐ | Recovery from unusual flight attitudes (without attitude indicator) - FM 303-312 |
| ☐ | ☐ | ☐ | Additional items at CFI's discretion _____ |

4. Postflight critique and preview of next lesson

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates proficiency in the maneuvers performed. The pilot will complete each task to the standards specified in the current FAA Instrument Rating Airman Certification Standards.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 28: STAGE THREE CHECK**Objective**

During this stage check, an authorized instructor will determine if the student is proficient in IFR cross-country navigation.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)

Content

1. Flight Lesson 27 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Stage check tasks
 - ☐☐☐ Weather information - FM 101-131
 - ☐☐☐ Cross-country flight planning - FM 133-156
 - ☐☐☐ Air traffic control clearances - FM 217-239
 - ☐☐☐ Departure, en route, and arrival operations - FM 335-358
 - ☐☐☐ Holding procedures - FM 241-260
 - ☐☐☐ Straight-and-level flight - FM 271-274
 - ☐☐☐ Change of airspeed - FM 275-281
 - ☐☐☐ Constant airspeed climbs and descents - FM 282-290
 - ☐☐☐ Rate climbs and descents - FM 291-297
 - ☐☐☐ Timed turns to magnetic compass headings - FM 298-302
 - ☐☐☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐☐☐ Intercepting and tracking navigational systems and DME arcs - FM 315-334
 - ☐☐☐ Loss of communications - FM 479-486
 - ☐☐☐ Loss of primary flight instrument indicators - FM 487-493
 - ☐☐☐ Checking instruments and equipment - FM 497-502
 - ☐☐☐ Instrument approach(es) at CFI's discretion _____
 - ☐☐☐ Additional items at CFI's discretion _____
4. Postflight critique
5. Flight Lesson 28 complete? Yes ____

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates the required level of proficiency in all stage check tasks based on the current FAA Instrument Rating Airman Certification Standards. If additional instruction is necessary, the flight instructor will assign the additional training. If the flight is satisfactory, the instructor will complete the pilot's training records and recommend the student for the End-of-Course Test.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

FLIGHT LESSON 29: END-OF-COURSE TEST**Objective**

The pilot will be able to demonstrate the required proficiency of an instrument-rated pilot by using the current FAA Instrument Rating Airman Certification Standards.

Text References

Instrument Pilot Flight Maneuvers and Practical Test Prep (FM)
Pilot's Operating Handbook (POH)

Content

1. Flight Lesson 28 complete? Yes ____ Copy of lesson placed in pilot's folder? Yes ____
2. Preflight briefing
3. Stage check tasks
 - ☐ ☐ ☐ Weather information - FM 101-131
 - ☐ ☐ ☐ Cross-country flight planning - FM 133-156
 - ☐ ☐ ☐ Aircraft systems related to IFR operations - FM 159-166
 - ☐ ☐ ☐ Aircraft flight instruments and navigation equipment - FM 167-198, POH-9
 - ☐ ☐ ☐ Instrument and equipment cockpit check - FM 199-213
 - ☐ ☐ ☐ Air traffic control clearances and procedures- FM 217-239
 - ☐ ☐ ☐ Departure, en route, and arrival operations - FM 335-358
 - ☐ ☐ ☐ Holding procedures - FM 241-260
 - ☐ ☐ ☐ Straight-and-level flight - FM 271-274
 - ☐ ☐ ☐ Change of airspeed - FM 275-281
 - ☐ ☐ ☐ Constant airspeed climbs and descents - FM 282-290
 - ☐ ☐ ☐ Rate climbs and descents - FM 291-297
 - ☐ ☐ ☐ Timed turns to magnetic compass headings - FM 298-302
 - ☐ ☐ ☐ Steep turns - CFII
 - ☐ ☐ ☐ Recovery from unusual flight attitudes - FM 303-312
 - ☐ ☐ ☐ Intercepting and tracking navigational systems and DME arcs - FM 315-334
 - ☐ ☐ ☐ Nonprecision approach (perform two, one using partial panel) - FM 387-420
 - ☐ ☐ ☐ Precision approach - FM 421-441
 - ☐ ☐ ☐ Missed approach - FM 443-453
 - ☐ ☐ ☐ Circling approach - FM 455-462
 - ☐ ☐ ☐ Landing from an instrument approach - FM 463-475
 - ☐ ☐ ☐ Loss of communications - FM 479-486
 - ☐ ☐ ☐ Loss of primary flight instrument indicators - FM 487-493
 - ☐ ☐ ☐ Checking instruments and equipment - FM 497-502
 - ☐ ☐ ☐ Automation management - FM 75-78
4. Postflight critique
5. Flight Lesson 29 complete? Yes ____
Copy of lesson and graduation certificate placed in pilot's folder? Yes ____

Completion Standards

The lesson will have been successfully completed when the pilot demonstrates the required level of proficiency in all tasks of the current FAA Instrument Rating Airman Certification Standards. If additional instruction is necessary, the chief flight instructor will assign the additional training. If the flight is satisfactory, the chief instructor will complete the pilot's training records and issue a graduation certificate.

Instructor's comments: _____

Lesson assignment: _____

Notes: _____

GLEIM® Reference Books

Pilot Handbook

- Comprehensive ground school text in outline format
- Expanded weather coverage
- Sections on flight reviews and instrument proficiency checks
- Color images and diagrams



FAR/AIM

- Expanded indexes
- Full color graphics

Aviation Weather & Weather Services

- A detailed explanation of weather
- A reorganization of
 - AC 00-6 Aviation Weather
 - AC 00-45 Aviation Weather Services
- Color graphics of weather depictions



Pilot Logbook

- Versatile and durable
- Ideal for pilots of all skill levels
- Professional quality at an affordable price
- The new standard in logbooks

GleimAviation.com
800.874.5346

GLEIM®
Aviation

APPENDIX A

KNOWLEDGE TESTS AND FIGURES

<i>Stage One Knowledge Test</i>	74
<i>Stage Two Knowledge Test</i>	76
<i>Stage Three Knowledge Test</i>	78
<i>End-of-Course Knowledge Test</i>	80
<i>Figures for Knowledge Tests</i>	85

For a copy of the answer key to all *Instrument Pilot Syllabus* Stage Tests, please email a request for the IPSYL Stage Test Answer Key to the Gleim Aviation Department at aviationteam@gleim.com.

STAGE ONE KNOWLEDGE TEST

1. (Refer to Figure 95 on page 103.) Which OBS selection on the No. 2 NAV would center the CDI and change the ambiguity indication to a TO?

- A — 166°.
- B — 346°.
- C — 354°.

2. (Refer to Figure 109 on page 106.) In which general direction from the VORTAC is the aircraft located?

- A — Northeast.
- B — Southeast.
- C — Southwest.

3. (Refer to Figure 98 on page 105 and Figure 99 on page 106.) To which aircraft position does HSI presentation "F" correspond?

- A — 10
- B — 14
- C — 16

4. (Refer to Figure 147 on page 115.) Which is the correct sequence for recovery from the unusual attitude indicated?

- A — Level wings, add power, lower nose, descend to original attitude, and heading.
- B — Add power, lower nose, level wings, return to original attitude and heading.
- C — Stop turn by raising right wing and add power at the same time, lower the nose, and return to original attitude and heading.

5. 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.

6. To level off at an airspeed higher than the descent speed, the addition of power should be made, assuming a 500 FPM rate of descent, at approximately

- A — 50 to 100 feet above the desired altitude.
- B — 100 to 150 feet above the desired altitude.
- C — 150 to 200 feet above the desired altitude.

7. Your transponder is inoperative. What are the requirements for flying in Class D airspace?

- A — The entry into Class D is prohibited.
- B — Continue the flight as planned.
- C — Pilot must immediately request priority handling to proceed to destination.

8. Which of the following is a benefit of flying with an autopilot?

- A — Pilots will not need to worry about controlling airspeed or throttle settings.
- B — Airspace restrictions will automatically be avoided.
- C — Pilot workload is reduced.

9. When airspeed is increased in a turn, what must be done to maintain a constant altitude?

- A — Decrease the angle of bank.
- B — Increase the angle of bank and/or decrease the angle of attack.
- C — Decrease the angle of attack.

10. While cruising at 190 knots, you wish to establish a climb at 160 knots. When entering the climb (full panel), it would be proper to make the initial pitch change by increasing back elevator pressure until the

- A — attitude indicator shows the approximate pitch attitude appropriate for the 160-knot climb.
- B — attitude indicator, airspeed, and vertical speed indicate a climb.
- C — airspeed indication reaches 160 knots.

11. What should be the indication on the magnetic compass as you roll into a standard-rate turn to the left from an east heading in the Northern Hemisphere?

- A — The compass will initially indicate a turn to the right.
- B — The compass will remain on east for a short time, then gradually catch up to the magnetic heading of the aircraft.
- C — The compass will indicate the approximate correct magnetic heading if the roll into the turn is smooth.

12. The primary reason the pitch attitude must be increased, to maintain a constant altitude during a coordinated turn, is because the

- A — thrust is acting in a different direction, causing a reduction in airspeed and loss of lift.
- B — vertical component of lift has decreased as the result of the bank.
- C — use of pedals has increased the drag.

13. The local altimeter setting should be used by all pilots in a particular area, primarily to provide for

- A — the cancellation of altimeter error due to nonstandard temperatures aloft.
- B — better vertical separation of aircraft.
- C — more accurate terrain clearance in mountainous areas.

14. During IFR en route operations using an approved TSO-C129 or TSO-C196 GPS system for navigation,

- A — no other navigation system is required.
- B — active monitoring of an alternate navigation system is always required.
- C — the aircraft must have an approved TSO-C129 or TSO-C196 and operational alternate navigation system appropriate for the route.

15. Which checks and inspections of flight instruments or instrument systems must be accomplished before an aircraft can be flown under IFR?

- A — VOR within 30 days, altimeter systems within 24 calendar months, and transponder within 24 calendar months.
- B — ELT test within 30 days, altimeter systems within 12 calendar months, and transponder within 24 calendar months.
- C — VOR within 24 calendar months, transponder within 24 calendar months, and altimeter system within 12 calendar months.

16. After your recent IFR experience lapses, how much time do you have before you must pass an instrument proficiency check to act as pilot in command under IFR?

- A — 6 months.
- B — 90 days.
- C — 12 months.

17. To meet the minimum instrument experience requirements, within the last 6 calendar months you need

- A — six instrument approaches, holding procedures, and intercepting and tracking courses in the appropriate category of aircraft.
- B — six hours in the same category aircraft.
- C — six hours in the same category aircraft, and at least 3 of the 6 hours in actual IFR conditions.

18. An instrument rated pilot who has not logged any instrument time in 1 year or more cannot serve as pilot in command under IFR, unless the pilot

- A — completes the required 6 hours and six approaches, followed by an instrument proficiency check given by an FAA-designated examiner.
- B — passes an instrument proficiency check in the category of aircraft involved, given by an approved FAA examiner, instrument instructor, or FAA inspector.
- C — passes an instrument proficiency check in the category of aircraft involved, followed by 6 hours and six instrument approaches, 3 of those hours in the category of aircraft involved.

19. A certificated commercial pilot who carries passengers for hire at night or in excess of 50 NM is required to have at least

- A — a type rating.
- B — a first-class medical certificate.
- C — an instrument rating in the same category of aircraft.

20. How should the pilot make a VOR receiver check when the aircraft is located on the designated checkpoint on the airport surface?

- A — With the aircraft headed directly toward the VOR and the OBS set to 000°, the CDI should center within plus or minus 4° of that radial with a TO indication.
- B — Set the OBS on the designated radial. The CDI must center within plus or minus 4° of that radial with a FROM indication.
- C — Set the OBS on 180° plus or minus 4°; the CDI should center with a FROM indication.

STAGE TWO KNOWLEDGE TEST

1. What does the ATC term "Radar Contact" signify?
 - A — Your aircraft has been identified and you will receive separation from all aircraft while in contact with this radar facility.
 - B — Your aircraft has been identified on the radar display and radar flight-following will be provided until radar identification is terminated.
 - C — You will be given traffic advisories until advised the service has been terminated or that radar contact has been lost.

2. (Refer to Figure 85 on page 98.) What is the minimum rate climb per NM to 9,000 feet required for the WASH2 WAGGE Departure?
 - A — 400 feet.
 - B — 750 feet.
 - C — 875 feet.

3. (Refer to Figure 230 on page 122 and Figure 231 on page 123.) You plan to fly to Baldwin for Christmas. What minimum equipment is required for the VOR/DME or GPS-A procedure, and can you complete the flight?
 - A — One VOR receiver; yes, the trip will be fun.
 - B — One VOR receiver and one DME receiver; no flight though, the airport is closed.
 - C — Two VOR receivers; yes, but no fuel is available because the airport is unattended.

4. (Refer to Figure 174 on page 118 and Figure 175 on page 119.) At which point does the JEN.JEN9 arrival begin?
 - A — INK VOR.
 - B — GLEN ROSE VORTAC.
 - C — FEVER intersection.

5. (Refer to Figure 120 on page 108.) The symbol on the plan view of the ILS RWY 35R procedure at DEN represents a minimum safe sector altitude within 25 NM of
 - A — Denver VORTAC.
 - B — Gandi outer marker.
 - C — Denver/Stapleton International Airport.

6. (Refer to Figure 124 on page 109.) What options are available concerning the teardrop course reversal for LOC RWY 35 approach to Duncan/Halliburton Field?
 - A — If a course reversal is required, only the teardrop can be executed.
 - B — The point where the turn is begun and the type and rate of turn are optional.
 - C — A normal procedure turn may be made if the 10 DME limit is not exceeded.

7. (Refer to Figure 131 on page 112.) Other than VOR/DME RNAV, what additional navigation equipment is required to conduct the VOR/DME RNAV RWY 4R approach at BOS?
 - A — None.
 - B — VNAV.
 - C — Transponder with altitude encoding and Marker Beacon.

8. (Refer to Figure 133 on page 113.) What is the minimum altitude descent procedure if cleared for the S-ILS 9 approach from Seal Beach VORTAC?
 - A — Descend and maintain 3,000 to JASER INT, descend to and maintain 2,500 until crossing SWAN LAKE, descend and maintain 1,260 until crossing AGNES, and to 991 (DH) after passing AGNES.
 - B — Descend and maintain 3,000 to JASER INT, descend to 2,800 when established on the LOC course, intercept and maintain the GS to 991 (DH).
 - C — Descend and maintain 3,000 to JASER INT, descend to 2,500 while established on the LOC course inbound, intercept and maintain the GS to 991 (DH).

9. (Refer to Figure 238 on page 125.) If cleared for the RNAV (GPS) RWY 28 approach (Lancaster/Fairfield) over APE VORTAC, what will ATC expect of you?
 - A — Proceed to CASER, use the S-28 LOC 1620-1 minimums.
 - B — Proceed straight in from FAIRF, descend after FAIRF.
 - C — Proceed direct to FAIRF and execute the parallel entry depicted on the instrument approach procedure.

10. What is the purpose of the runway exit sign?
 - A — Defines direction and designation of runway when exiting a taxiway.
 - B — Defines direction and designation of exit taxiway from runway.
 - C — Defines a mandatory exit point from the runway during Land and Hold Short Operations (LAHSO).

11. When exiting the runway, what is the purpose of the runway exit sign?
 - A — Indicates designation and direction of exit taxiway from runway.
 - B — Indicates designation and direction of taxiway leading out of an intersection.
 - C — Indicates direction to take-off runway.

12. When is radar service terminated during a visual approach?
 - A — Automatically when ATC instructs the pilot to contact the tower.
 - B — Immediately upon acceptance of the approach by the pilot.
 - C — When ATC advises, "Radar service terminated; resume own navigation."

13. Which information is always given in an abbreviated departure clearance?

- A — DP or transition name and altitude to maintain.
- B — Name of destination airport or specific fix and altitude.
- C — Altitude to maintain and code to squawk.

14. During a flight, the controller advises “traffic 2 o'clock 5 miles southbound.” The pilot is holding 20° correction for a crosswind from the right. Where should the pilot look for the traffic?

- A — 40° to the right of the aircraft's nose.
- B — 20° to the right of the aircraft's nose.
- C — Straight ahead.

15. 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.

16. What does the Runway Visual Range (RVR) value, depicted on certain straight-in IAP Charts, represent?

- A — The slant range distance the pilot can see down the runway while crossing the threshold on glide slope.
- B — The horizontal distance a pilot should see when looking down the runway from a moving aircraft.
- C — The slant visual range a pilot should see down the final approach and during landing.

17. What does the symbol T within a black triangle in the minimums section of the IAP for a particular airport indicate?

- A — Takeoff minimums are 1 mile for aircraft having two engines or less and 1/2 mile for those with more than two engines.
- B — Instrument takeoffs are not authorized.
- C — Takeoff minimums are not standard and/or departure procedures are published.

18. A pilot is more subject to spatial disorientation if

- A — kinesthetic senses are ignored.
- B — eyes are moved often in the process of cross-checking the flight instruments.
- C — body signals are used to interpret flight attitude.

19. What is meant when departure control instructs you to “resume own navigation” after you have been vectored to a Victor airway?

- A — You should maintain the airway by use of your navigation equipment.
- B — Radar service is terminated.
- C — You are still in radar contact, but must make position reports.

20. What is the procedure when the DME malfunctions at or above 24,000 feet MSL?

- A — Notify ATC immediately and request an altitude below 24,000 feet.
- B — Continue to your destination in VFR conditions and report the malfunction.
- C — After immediately notifying ATC, you may continue to the next airport of intended landing where repairs can be made.

STAGE THREE KNOWLEDGE TEST

1. (Refer to Figure 91 on page 101.) Southbound on V257, at what time should you arrive at DBS VORTAC if you crossed over CPN VORTAC at 0850 and over DIVID intersection at 0854?

- A — 0939
- B — 0943
- C — 0947

2. (Refer to Figure 69 on page 97 and Legend 26 on page 128.) What aircraft equipment code should be entered in block 3 of the flight plan?

- A — A.
- B — B.
- C — U.

3. (Refer to Figure 35 on page 88, Figure 35A on page 89, and Figure 37 on page 89.) What is your position relative to the CONNY intersection on the BUJ.BUJ3 transition?

- A — Left of the TXK R-272 and approaching the BUJ R-059°.
- B — Left of the TXK R-266 and past the BUJ R-065.
- C — Right of the TXK R-270 and approaching the BUJ R-245.

4. (Refer to Figure 65 on page 96.) Which point would be the appropriate VOR COP on V552 from the LFT to the TBD VORTACs?

- A — CLYNT intersection.
- B — HATCH intersection.
- C — 34 DME from the LFT VORTAC.

5. (Refer to Figure 89 on page 100.) What VHF frequencies are available for communications with Cedar City FSS?

- A — 123.6, 121.5, 108.6, and 112.8.
- B — 122.2, 121.5, 122.6, and 122.1.
- C — 122.2, 121.5, 122.0, and 123.6.

6. (Refer to Figure 9 on page 86.) The Severe Weather Outlook Chart depicts

- A — areas forecast to have thunderstorms.
- B — areas of forecast, severe or extreme turbulence, and areas of severe icing for the next 24 hours.
- C — areas of general thunderstorm activity (excluding severe) by the use of hatching on the chart.

7. (Refer to Figure 2 on page 85.) What approximate wind direction, speed, and temperature (relative to ISA) should a pilot expect when planning for a flight over ALB at FL 270?

- A — 270° magnetic at 97 knots; ISA -4°C.
- B — 260° true at 110 knots; ISA +5°C.
- C — 275° true at 97 knots; ISA +4°C.

8. (Refer to Figure 49 on page 94.) What is the usable runway length for landing on runway 21 at PDX?

- A — 7,900 ft.
- B — 7,000 ft.
- C — 5,957 ft.

9. (Refer to Figure 174 on page 118 and Figure 175 on page 119.) When DFW is landing to the north, at CURLE expect

- A — to be instructed to maintain 200 knots.
- B — to fly a course of 010°.
- C — radar vectors.

10. With regards to icing, which is true?

- A — Heavy icing on the leading edge is not as bad as light icing on the upper surface.
- B — Smooth ice on the upper surface will not cause any problems.
- C — Light icing is more of a problem than heavy icing.

11. A high cloud is composed mostly of

- A — ozone.
- B — condensation nuclei.
- C — ice crystals.

12. Winds at 5,000 feet AGL on a particular flight are southwesterly while most of the surface winds are southerly. This difference in direction is primarily due to

- A — a stronger pressure gradient at higher altitudes.
- B — friction between the wind and the surface.
- C — stronger Coriolis force at the surface.

13. (Refer to Figure 55 on page 95.) As a guide in making range corrections, how many degrees of relative bearing change should be used for each one-half-mile deviation from the desired arc?

- A — 2° to 3°.
- B — 5° maximum.
- C — 10° to 20°.

14. Which conditions are favorable for the formation of radiation fog?

- A — Moist air moving over colder ground or water.
- B — Cloudy sky and a light wind moving saturated warm air over a cool surface.
- C — Clear sky, little or no wind, small temperature/dew point spread, and over a land surface.

15. Test data indicates that ice, snow, or frost having a thickness and roughness similar to medium or coarse sandpaper on the leading edge and upper surface of an airfoil can

- A — increase drag and reduce lift by as much as 40 percent.
- B — reduce lift by as much as 40 percent and increase drag by 30 percent.
- C — reduce lift by as much as 30 percent and increase drag by 40 percent.

16. On which surface of the aircraft could a pilot generally expect to see the first sign of ice accumulation?

- A — Pitot tube.
- B — Wing.
- C — Propeller.

17. Where will the pilot first notice an accumulation of ice?

- A — On the leading edge of the wing.
- B — On the propeller.
- C — On the air temperature probe.

18. When is the wind group at one of the forecast altitudes omitted at a specific location or station in the Wind and Temperature Aloft Forecast (FB)? When the wind

- A — is less than 5 knots.
- B — is less than 10 knots.
- C — at the altitude is within 1,500 feet of the station elevation.

19. When operating under IFR with a VFR-On-Top clearance, what altitude should be maintained?

- A — An IFR cruising altitude appropriate to the magnetic course being flown.
- B — A VFR cruising altitude appropriate to the magnetic course being flown and as restricted by ATC.
- C — The last IFR altitude assigned by ATC.

20. (Refer to Figure 38 on page 90.) What fuel should be entered into block 12 of the flight plan?

- A — Total fuel to destination.
- B — Total fuel required to destination, plus the fuel to the alternate, plus 45 minutes.
- C — Total usable fuel.

END-OF-COURSE KNOWLEDGE TEST

1. (Refer to Figure 38 on page 90, Figure 39 on page 91, Figure 40 on page 92, and Figure 41 on page 93.) (Refer to the FB excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight plan.

Route of flight Figures 38, 39, and 40
 Flight log & MAG VAR Figure 39
 ACTON TWO ARRIVAL Figure 41

FT	3000	6000	9000	12000
ABI		2033+13	2141+13	2142+05

- A — 1 hour 24 minutes.
- B — 1 hour 26 minutes.
- C — 1 hour 31 minutes.

2. ATC may assign the MOCA when certain special conditions exist, and when within

- A — 22 NM of a VOR.
- B — 25 NM of a VOR.
- C — 30 NM of a VOR.

3. (Refer to Figure 96 on page 103 and Figure 97 on page 104.) To which aircraft position does HSI presentation "I" correspond?

- A — 4
- B — 12
- C — 11

4. (Refer to Figure 139 on page 114 and Figure 141 on page 115.) Which displacement from the localizer centerline and glide slope at the 1,300-foot point from the runway is indicated?

- A — 21 feet below the glide slope and approximately 320 feet to the right of the runway centerline.
- B — 28 feet above the glide slope and approximately 250 feet to the left of the runway centerline.
- C — 21 feet above the glide slope and approximately 320 feet to the left of the runway centerline.

5. (Refer to Figure 30 on page 87.) Which restriction to the use of the OED VORTAC would be applicable to the (GNATS1.MOURN) departure?

- A — R-333 beyond 30 NM below 6,500 feet.
- B — R-210 beyond 35 NM below 8,500 feet.
- C — R-251 within 15 NM below 6,100 feet.

6. Interpret this PIREP.

MRB UA/OV MRB/TM 1430/FL 060/TP C182/SK BKN
 BL /WX RA/TB MDT.

- A — Ceiling 6,000 feet intermittently below moderate thundershowers; turbulence increasing westward.
- B — FL 60,000, intermittently below clouds; moderate rain, turbulence increasing with the wind.
- C — At 6,000 feet; between layers; moderate turbulence; moderate rain.

7. (Refer to Figure 9 on page 86.) The Severe Weather Outlook Chart, which is used primarily for advance planning, provides what information?

- A — An 18-hour categorical outlook with a 48-hour valid time for severe weather watch, thunderstorm lines, and of expected tornado activity.
- B — A preliminary 12-hour outlook for severe thunderstorm activity and probable convective turbulence.
- C — A 24-hour severe weather outlook for possible thunderstorm activity.

8. (Refer to Figure 7 on page 85.) What weather conditions are depicted within the area indicated by arrow D?

- A — Forecast isolated thunderstorms, tops at FL 440, more than 1/8 coverage.
- B — Existing isolated cumulonimbus clouds, tops above 43,000 feet with less than 1/8 coverage.
- C — Forecast isolated embedded cumulonimbus clouds with tops at 43,000 feet MSL, and less than 1/8 coverage.

9. (Refer to Figure 251 on page 127.) What is the slope of RWY 9?

- A — 0.4% up.
- B — 0.4% down.
- C — 0.3% down.

10. (Refer to Figure 126 on page 110.) What landing minimums apply for a 14 CFR Part 91 operator at Dothan, AL using a category C aircraft during a circling LOC 31 approach at 120 knots? (DME available.)

- A — MDA 860 feet MSL and visibility 2 SM.
- B — MDA 860 feet MSL and visibility 1 and 1/2 SM.
- C — MDA 720 feet MSL and visibility 3/4 SM.

11. (Refer to Figure 228 on page 121.) The missed approach point for the LOC RWY 31 procedure is

- A — 2:33 from PECAT.
- B — 200 feet AGL.
- C — 1,081 feet MSL.

12. (Refer to Figure 238 on page 125.) If cleared for the RNAV (GPS) RWY 28 approach (Lancaster/Fairfield) over APE VORTAC, what will ATC expect of you?

- A — Proceed to CASER, use the S-28 LOC 1620-1 minimums.
- B — Proceed straight in from FAIRF, descend after FAIRF.
- C — Proceed direct to FAIRF and execute the parallel entry depicted on the instrument approach procedure.

13. (Refer to Figure 249 on page 126.) At what point is the pilot authorized to descend below 5,300 feet when cleared to the AJCIZ waypoint from the west?

- A — 15 NM from the waypoint.
- B — 6 NM past the waypoint.
- C — 30 NM from the waypoint.

14. (Refer to Figure 85 on page 98 and Figure 86 on page 99.) Which combination of indications confirm that you are approaching WAGGE intersection slightly to the right of the LOC centerline on departure?

- A — 1 and 3.
- B — 1 and 4.
- C — 2 and 3.

15. A VOR receiver with normal five-dot course sensitivity shows a three-dot deflection at 30 NM from the station. The aircraft would be displaced approximately how far from the course centerline?

- A — 2 NM.
- B — 3 NM.
- C — 5 NM.

16. When a pilot believes advanced avionics enable operations closer to personal or environmental limits,

- A — greater utilization of the aircraft is achieved.
- B — risk is increased.
- C — risk is decreased.

17. An aircraft which is equipped with an Electronic Flight Display (EFD) can

- A — compensate for an airman's lack of skill or knowledge.
- B — offer new capabilities and simplify the basic flying task.
- C — improve flight awareness by allowing the pilot to simply watch for alerts.

18. 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.

19. The standard IFR climb gradient is

- A — 500 feet per NM.
- B — 400 feet per NM.
- C — 200 feet per NM.

20. During or after flight in icing conditions, vibration or buffeting that follows, but was not evident prior to, flap deployment is

- A — an aerodynamic instability due to ice buildup forward of the ailerons but aft of the deicer boots.
- B — an incipient tailplane stall as a result of negative tailplane angle after flap deployment.
- C — an aerodynamic wing stall due to increased angle of attack as a result of flap deployment.

21. When ATC has not imposed any climb or descent restrictions and aircraft are within 1,000 feet of assigned altitude, pilots should attempt to both climb and descend at a rate of between

- A — 500 feet per minute and 1,000 feet per minute.
- B — 500 feet per minute and 1,500 feet per minute.
- C — 1,000 feet per minute and 2,000 feet per minute.

22. (Refer to Figure 188 on page 120.) With a ground speed of 120 knots, approximately what minimum rate of descent will be required between I-GPO 11.3 DME fix (COVDU) and the I-GPO 7.3 DME fix?

- A — 320 feet per minute.
- B — 600 feet per minute.
- C — 710 feet per minute.

23. How should deicing boots be used after exiting flight in icing conditions?

- A — It is no longer necessary to operate the boots after leaving icing conditions.
- B — You should continue to cycle the boots several times to remove residual ice left behind after normal boot operation.
- C — Only continue to cycle the boots if you are concerned you may still be accumulating ice.

24. (Refer to Figure 137 on page 114.) What is the distance (B) from the beginning of the runway to the touchdown zone marker?

- A — 250 feet.
- B — 500 feet.
- C — 750 feet.

25. A runway exit sign

- A — points toward a named taxiway that leads off the runway.
- B — designates an intersection of two or more runways.
- C — shows the direction to exit from a named taxiway onto a runway.

26. (Refer to Figure 92 on page 102.) What is the minimum in-flight visibility and distance from clouds required for an airplane operating less than 1,200 feet AGL during daylight hours in area 6?

- A — 3 miles; (I) 1,000 feet; (K) 2,000 feet; (L) 500 feet.
- B — 1 mile; (I) clear of clouds; (K) clear of clouds; (L) clear of clouds.
- C — 1 mile; (I) 500 feet; (K) 1,000 feet; (L) 500 feet.

27. How does a pilot normally obtain the current altimeter setting during an IFR flight in Class E airspace below 18,000 feet?

- A — The pilot should contact ARTCC at least every 100 NM and request the altimeter setting.
- B — FSS's along the route broadcast the weather information at 15 minutes past the hour.
- C — ATC periodically advises the pilot of the proper altimeter setting.

28. Which altitude is indicated when the altimeter is set to 29.92" Hg?

- A — Density.
- B — Pressure.
- C — Standard.

29. Which of the following is true concerning GPS approaches?

- A — Handheld GPS receivers are approved in emergency situations.
- B — Terminal mode occurs within 20 NM of the destination airport.
- C — In approach mode, the sensitivity on the CDI changes from 1 NM to 0.3 NM.

30. What conditions are necessary before ATC can authorize a visual approach?

- A — You must have the preceding aircraft in sight, and be able to remain in VFR weather conditions.
- B — You must have the airport in sight or the preceding aircraft in sight, and be able to proceed to, and land in IFR conditions.
- C — You must have the airport in sight or a preceding aircraft to be followed, and be able to proceed to the airport in VFR conditions.

31. The displacement of a turn coordinator during a coordinated turn will

- A — indicate the angle of bank.
- B — remain constant for a given bank regardless of airspeed.
- C — increase as angle of bank increases.

32. Which procedure applies to instrument departure procedures?

- A — Instrument departure clearances will not be issued unless requested by the pilot.
- B — The pilot in command must accept an instrument departure procedure when issued by ATC.
- C — If an instrument departure procedure is accepted, the pilot must possess a textual or graphic description.

33. 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

34. On the taxi check, the magnetic compass should

- A — swing opposite to the direction of turn when turning from north.
- B — exhibit the same number of degrees of dip as the latitude.
- C — swing freely and indicate known headings.

35. The most susceptible surface of the aircraft for ice accumulation is the

- A — windshield.
- B — main wing.
- C — tailplane.

36. If during an ILS approach in IFR conditions, the approach lights are not visible upon arrival at the DH, the pilot is

- A — required to immediately execute the missed approach procedure.
- B — permitted to continue the approach and descend to the localizer MDA.
- C — permitted to continue the approach to the approach threshold of the ILS runway.

37. (Refer to Figure 118 on page 107.) During the ILS RWY 12L procedure at DSM, what altitude minimum applies if the glide slope becomes inoperative?

- A — 1,420 feet.
- B — 1,360 feet.
- C — 1,121 feet.

38. Abrupt head movement during a prolonged constant rate turn in IMC or simulated instrument conditions can cause

- A — Coriolis illusion.
- B — elevator illusion.
- C — inversion illusion.

39. If the RVR is not reported, what meteorological value should you substitute for 2400 RVR?

- A — A ground visibility of 1/2 NM.
- B — A slant range visibility of 2,400 feet for the final approach segment of the published approach procedure.
- C — A ground visibility of 1/2 SM.

40. (Refer to Figure 129 on page 111.) How should the missed approach point be identified when executing the RNAV RWY 36 approach at Adams Field?

- A — When the TO-FROM indicator changes.
- B — Upon arrival at 760 feet on the glidepath.
- C — When time has expired for 5 NM past the FAF.

41. If you encounter in-flight icing and ATC asks you to report your conditions, what are the official reportable icing values that you are expected to use?

- A — Light, moderate, severe, extreme.
- B — Trace, light, moderate, severe.
- C — Few, light, moderate, severe.

42. (Refer to Figure 232 on page 124.) During the LOC RWY 35 missed approach at Duncan/Halliburton Field (DUC), what would be the appropriate entry for the holding?

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

43. Which is the correct sequence for recovery from a spiraling, nose-low, increasing airspeed, unusual flight attitude?

- A — Increase pitch attitude, reduce power, and level wings.
- B — Reduce power, correct the bank attitude, and raise the nose to a level attitude.
- C — Correct the bank attitude, raise the nose to a level attitude, and reduce power.

44. (Refer to Figure 148 on page 116.) 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.

45. You have filed an IFR flight plan with a VFR-on-Top clearance in lieu of an assigned altitude. If you receive this clearance and fly a course of 180°, at what altitude should you fly? (Assume VFR conditions.)

- A — Any IFR altitude which will enable you to remain in VFR conditions.
- B — An odd thousand-foot MSL altitude plus 500 feet.
- C — An even thousand-foot MSL altitude plus 500 feet.

46. Your aircraft is equipped with a WAAS enabled GPS unit. While performing a GPS approach, you note an “LNAV/VNAV available” indication on the moving map display and horizontal situation indicator. You know that

- A — you can use the LPV minimums line on the IAP chart with this indication.
- B — the indication reflects an artificially created advisory glidepath that you can use to descend to the LNAV MDA.
- C — you can descend to GBAS approach minimums indicated on the IAP.

47. What feature is associated with a temperature inversion?

- A — A stable layer of air.
- B — An unstable layer of air.
- C — Air mass thunderstorms.

48. To preserve night vision, the most appropriate cockpit lighting is

- A — Reducing the interior lighting intensity to a minimum level.
- B — The use of regular white light, such as a flashlight, will not impair night adaptation.
- C — Increase the interior intensity to slightly above the outside level.

49. How can an instrument pilot best overcome spatial disorientation?

- A — Use a very rapid cross-check.
- B — Properly interpret the flight instruments and act accordingly.
- C — Avoid banking in excess of 30°.

50. Which of the following defines the type of altitude used when maintaining FL 210?

- A — Indicated.
- B — Pressure.
- C — Calibrated.

51. When using VOT to make a VOR receiver check, the CDI should be centered and the OBS should indicate that the aircraft is on the

- A — 090 radial.
- B — 180 radial.
- C — 360 radial.

52. For aircraft other than helicopters, what minimum weather conditions must be forecast for your ETA at an alternate airport that has a precision approach procedure, with standard alternate minimums, in order to list it as an alternate for the IFR flight?

- A — 600-foot ceiling and 2 SM visibility at your ETA.
- B — 600-foot ceiling and 2 SM visibility from 2 hours before to 2 hours after your ETA.
- C — 800-foot ceiling and 2 SM visibility at your ETA.

53. When an aircraft is not equipped with a transponder, what requirement must be met before ATC will authorize a flight within Class B airspace?

- A — A request for the proposed flight must be made to ATC at least 1 hour before the flight.
- B — The proposed flight must be conducted when operating under instrument flight rules.
- C — The proposed flight must be conducted in visual meteorological conditions (VMC).

54. (Refer to Figure 171 on page 117.) Under which condition should the missed approach procedure for the RNAV(GPS) RWY 33 approach be initiated?

- A — When passage of the MAP waypoint is shown on the ambiguity indicator.
- B — After the MDA is reached and 1.8 DME fix from the MAP waypoint.
- C — Immediately upon reaching 4.1 DME from the FAF.

55. What is the maximum IFR altitude you may fly in an unpressurized aircraft without providing passengers with supplemental oxygen?

- A — 12,500 feet.
- B — 14,000 feet.
- C — 15,000 feet.

56. If squalls are reported at your destination, what wind conditions should you anticipate?

- A — Sudden increases in wind speed of at least 16 knots rising to 22 knots or more, lasting for at least 1 minute.
- B — Peak gusts of at least 35 knots for a sustained period of 1 minute or longer.
- C — Rapid variation in wind direction of at least 20° and changes in speed of at least 10 knots between peaks and lulls.

57. A pilot reporting turbulence that momentarily causes slight, erratic changes in altitude and/or attitude should report it as

- A — light turbulence.
- B — moderate turbulence.
- C — light chop.

58. Frontal waves normally form on

- A — slow moving cold fronts or stationary fronts.
- B — slow moving warm fronts and strong occluded fronts.
- C — rapidly moving cold fronts or warm fronts.

59. The Hazardous Inflight Weather Advisory Service (HIWAS) is a continuous broadcast over selected VORs of

- A — SIGMETs, CONVECTIVE SIGMETs, AIRMETs, Severe Weather Forecast Alerts (AWW), and Center Weather Advisories.
- B — SIGMETs, CONVECTIVE SIGMETs, AIRMETs, Wind Shear Advisories, and Severe Weather Forecast Alerts (AWW).
- C — Wind Shear Advisories, Radar Weather Reports, SIGMETs, CONVECTIVE SIGMETs, AIRMETs, and Center Weather Advisories (CWA).

60. When a climb or descent through an inversion or wind-shear zone is being performed, the pilot should be alert for which of the following change in airplane performance?

- A — A fast rate of climb and a slow rate of descent.
- B — A sudden change in airspeed.
- C — A sudden surge of thrust.

FIGURES FOR KNOWLEDGE TESTS

All FAA figures required for the knowledge tests are located below and on the following pages.

VALID 141200Z FOR USE 0900-1500Z. TEMPS NEG ABV 24000									
FT	3000	6000	9000	12000	18000	24000	30000	34000	39000
EMI	2807	2715-07	2728-10	2842-13	2867-21	2891-30	751041	771150	780855
ALB	0210	9900-07	2714-09	2728-12	2656-19	2777-28	781842	760150	269658
PSB		1509+04	2119+01	2233-04	2262-14	2368-26	781939	760850	780456
STL	2308	2613+02	2422-03	2431-08	2446-19	2461-30	760142	782650	760559

Figure 2. – Winds and Temperatures Aloft Forecast.

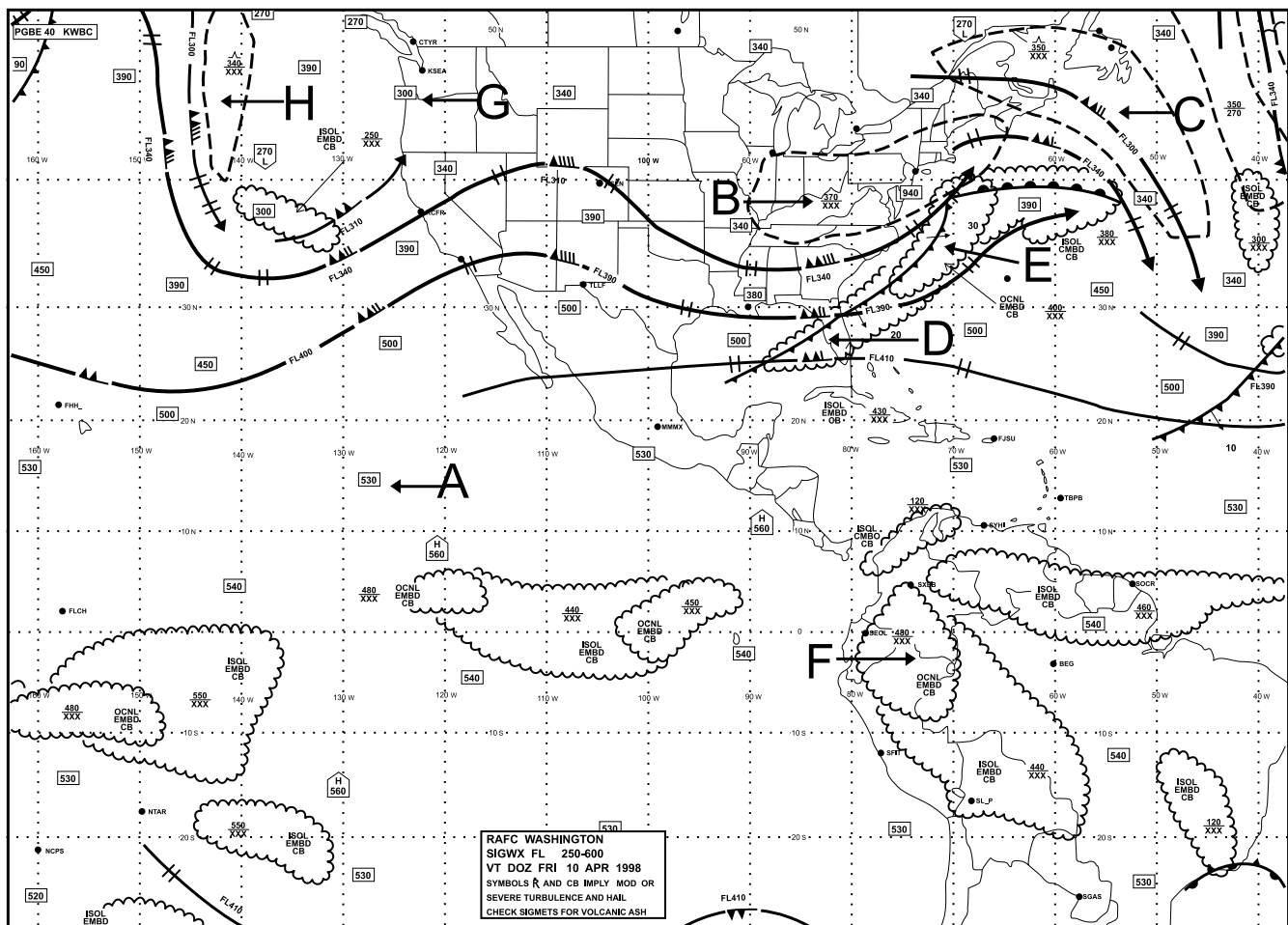


Figure 7. – High-Level Significant Weather Prognostic Chart.

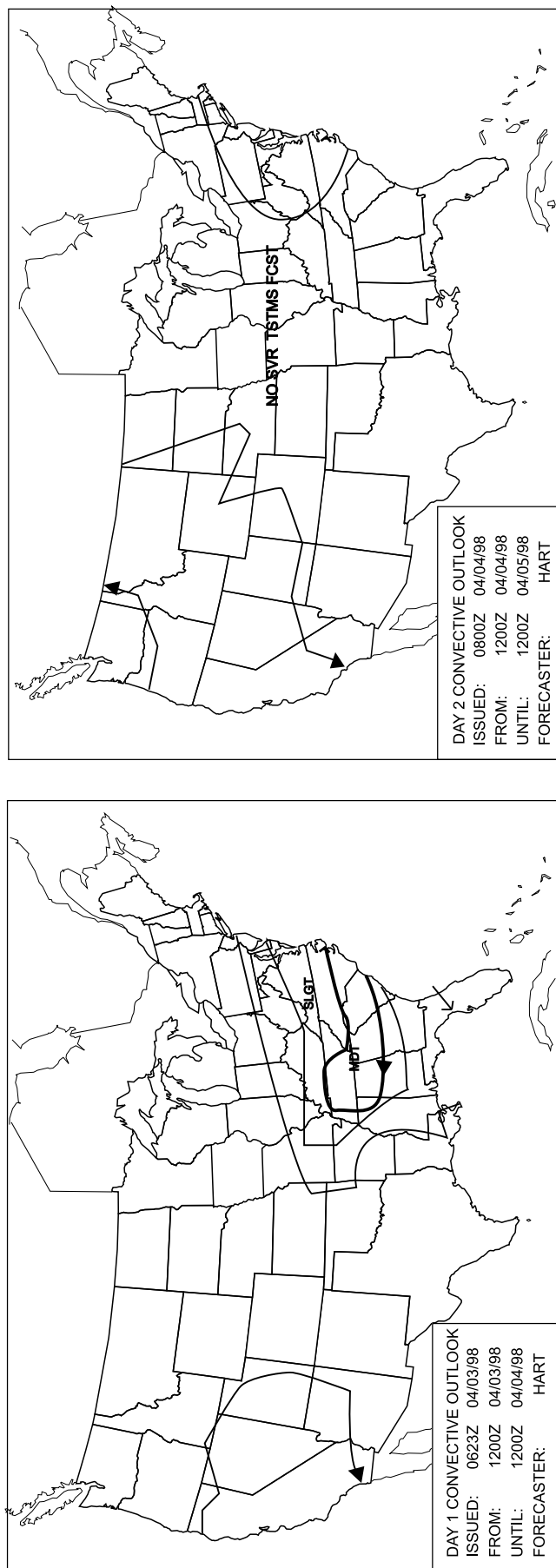


Figure 9. – Severe Weather Outlook Charts.

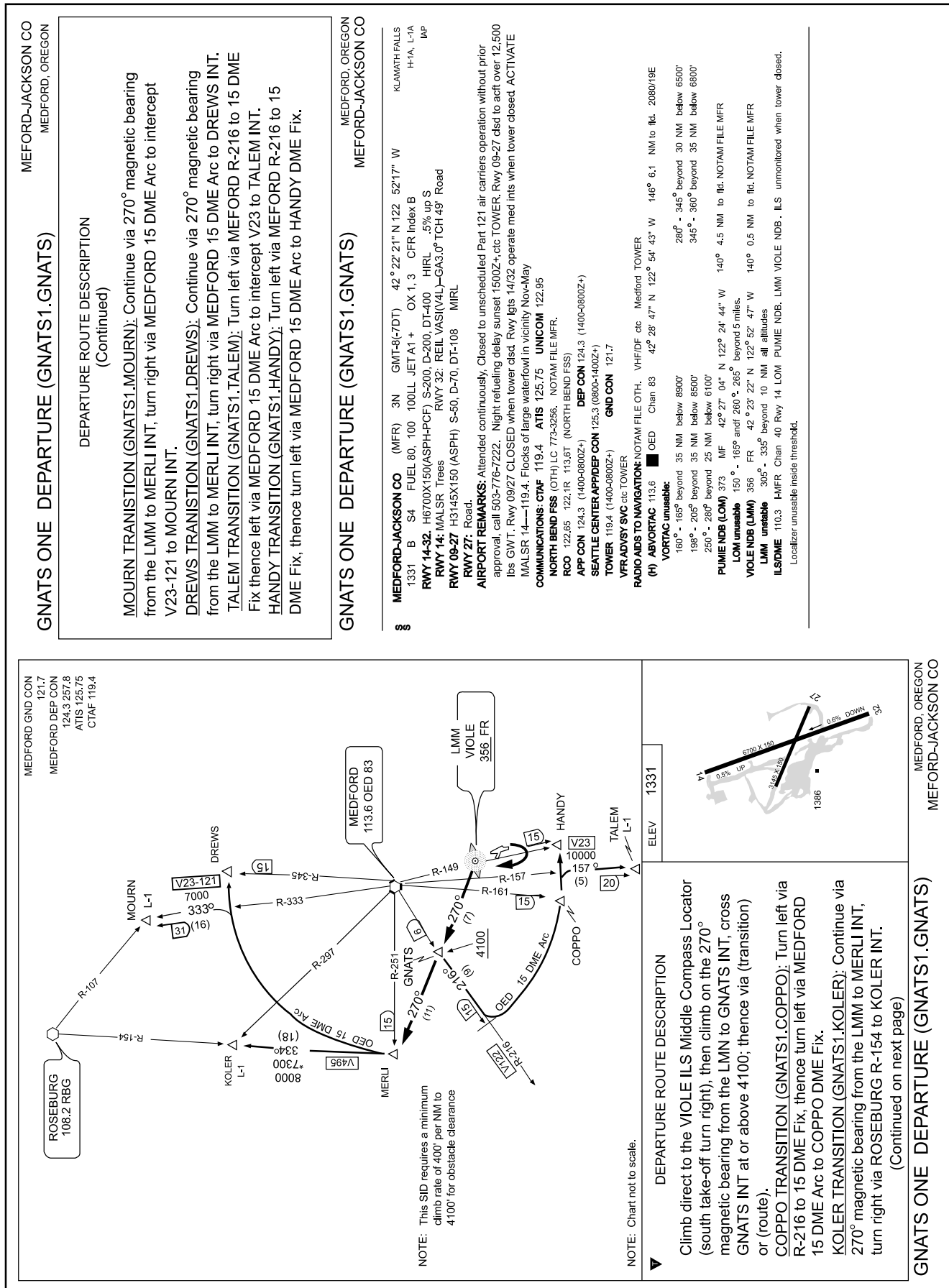


Figure 30. – GNATS One Departure and Excerpt from Airport/Facility Directory.



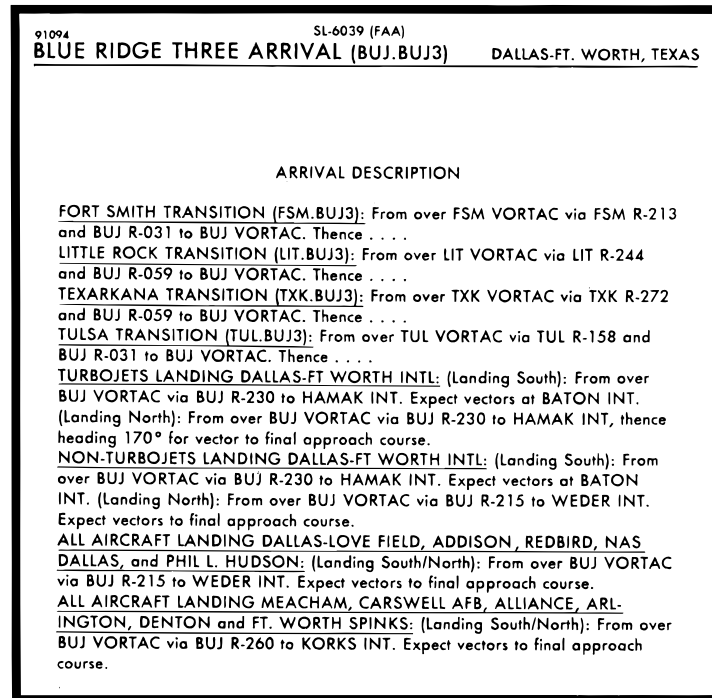


Figure 35A. – Blue Ridge Three Arrival Description.

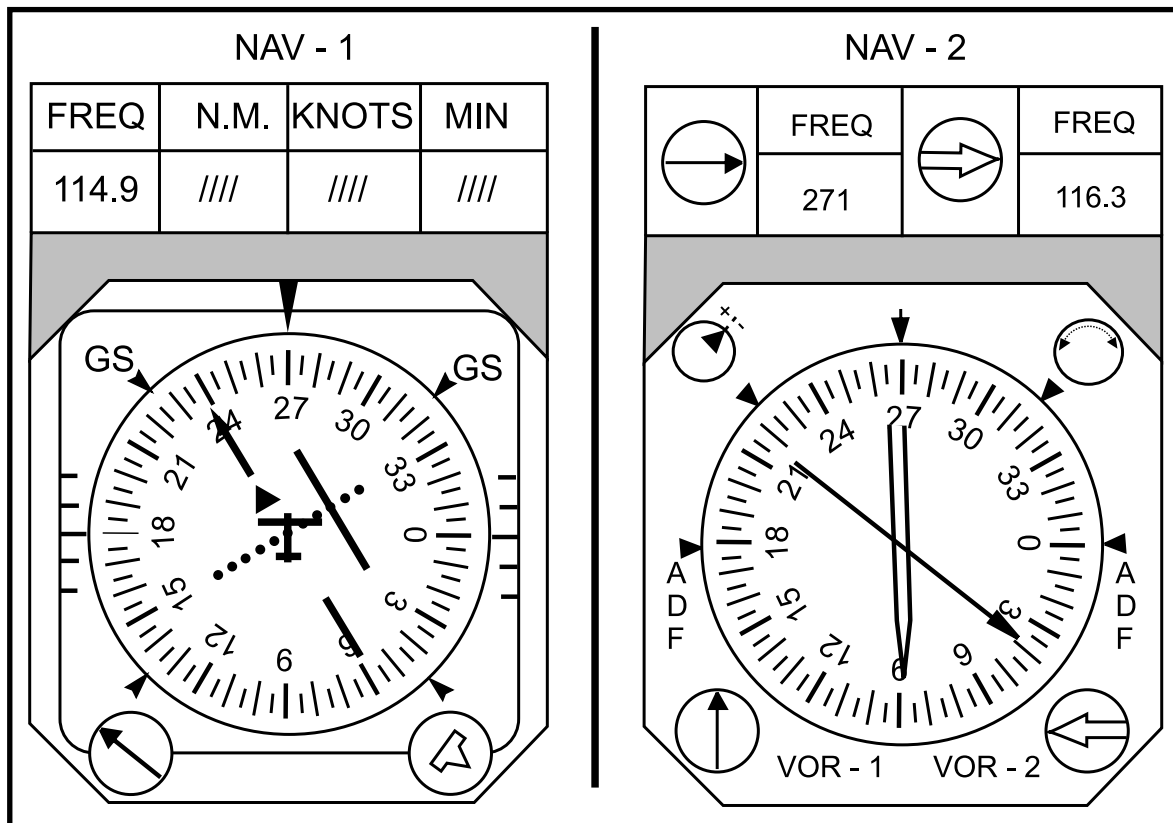


Figure 37. – CDI and RMI – NAV 1 and NAV 2.

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION FLIGHT PLAN		(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER		TIME STARTED	SPECIALIST INITIALS
1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/ SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME PROPOSED (Z) ACTUAL (Z)
☐ VFR ☒ IFR ☐ DVFR	N4321P	C402/	156 KTS	BGS	
7. CRUISING ALTITUDE 11000					
8. ROUTE OF FLIGHT DIRECT BGS, V16 ABI, ABI.AQN2					
9. DESTINATION (Name of airport and city) DALLAS FT. WORTH DFW		10. EST. TIME ENROUTE HOURS MINUTES		11. REMARKS	
12. FUEL ON BOARD HOURS MINUTES		13. ALTERNATE AIRPORT(S) N/A		14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE 17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)	
15. NUMBER ABOARD 2					
16. COLOR OF AIRCRAFT RED/BLEU/WHITE		CIVIL AIRCRAFT PILOTS. FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.			

FAA Form 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

AIRCRAFT INFORMATION

MAKE Cessna MODEL 402C

N 4321P V_{so} 71

AIRCRAFT EQUIPMENT/STATUS**

**NOTE: X= OPERATIVE INOP= INOPERATIVE N/A= NOT APPLICABLE

TRANSPONDER: X (MODE C) X ILS: (LOCALIZER) X (GLIDE SLOPE) X

VOR NO.1 X (NO.2) X ADF: X RNAV: X

VERTICAL PATH COMPUTER: N/A DME: X

MARKER BEACON: X (AUDIO) X (VISUAL) X

Figure 38. – Flight Plan and Aircraft Information.

FLIGHT LOG BIG SPRINGS McMAHON-WRINKLE TO DALLAS FT. WORTH (DFW)											
CHECK POINTS		ROUTE	COURSE	WIND	SPEED-KTS		DIST NM	TIME		FUEL	
FROM	TO	ALTITUDE		TEMP	TAS	GS		LEG	TOT	LEG	TOT
21XS	BGS	DIRECT	DIRECT								
	LORAN	CLIMB V16 11,000		075°					:06:0		
	ABI	V16 11,000	076°		156						
	COTTN	DIRECT 11,000	087°								
	AQN	AQN2	075°								
	CREEK	AQN2	040°					:08:0			
APPROACH & LANDING	DFW AIRPORT	RADAR VEC — DESCENT									

OTHER DATA:
NOTE:

MAG. VAR. 11 ° E.
(STAR) ACTION TWO ARRIVAL (AQN2)

FLIGHT SUMMARY

TIME	FUEL (LB)	
		EN ROUTE
		RESERVE
		MISSED APPR.
		TOTAL

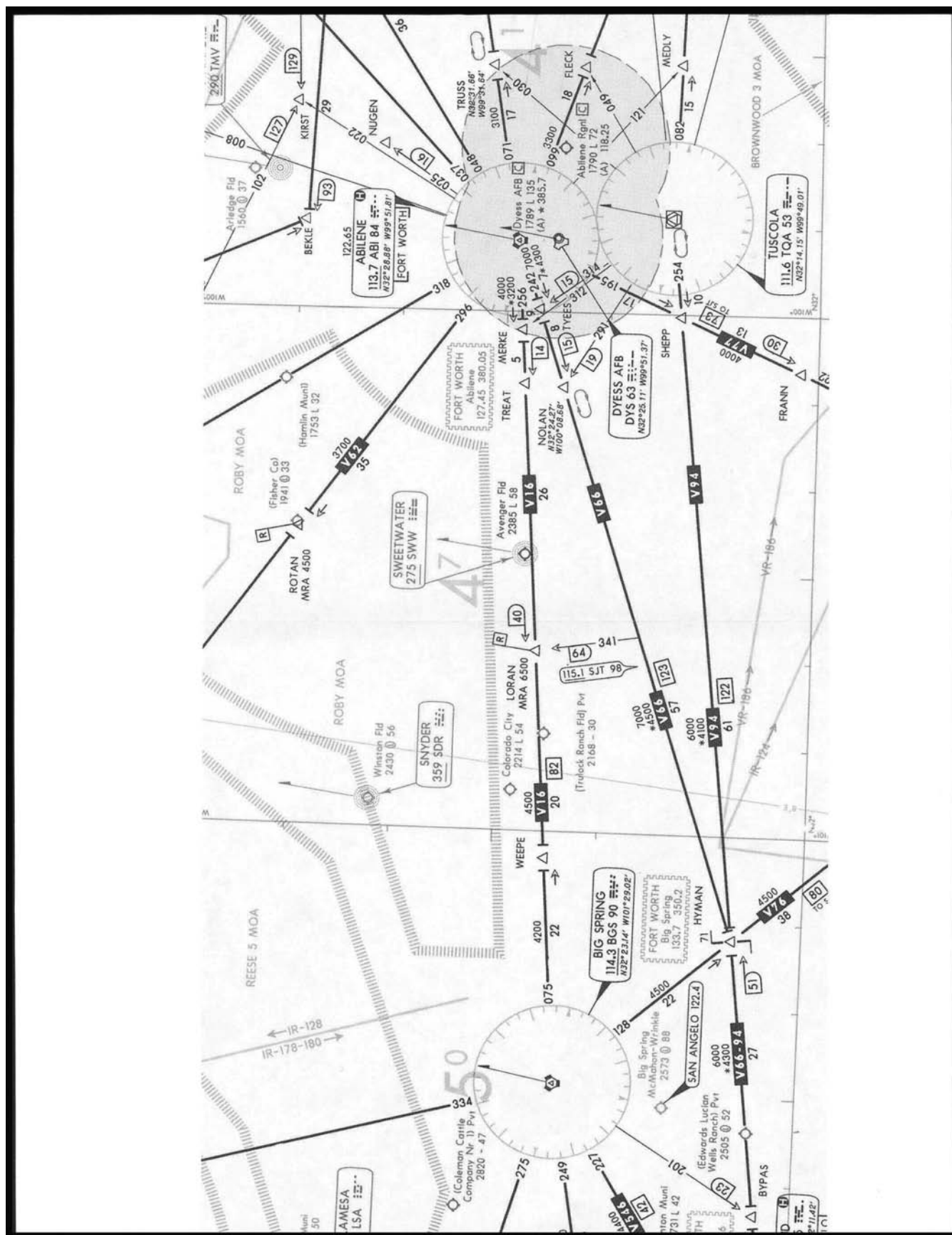
BIG SPRING McMAHON-WRINKLE (21XS) 2SW UTC-6(-5DT)

32°12'45"N 101°31'17"W
2572 B S4FUEL 100LL, JET A
RWY 17-85: H8803X100 (ASPH-CONC) S-44, D-62, DDT-101 MIRL
RWY 17:SSALS.PVASI(ASPH)-GA3.0° TCH 41'
RWY 06-24:H4600X75(ASPH) MIRL
RWY 24:PVASI(PSIL)-GA3.55° TCH31'. P-line
AIRPORT REMARKS: Attended 1400-2300Z. For fuel after hours call 915-263-3958. ACTIVATE MIRL Rwy 06-24 and Rwy 17-35, SSALS Rwy 17 and PVASI Rwy 17 and 24-CTAF
COMMUNICATIONS:CTAF/UNICOM 122.8
SAN ANGELOSFSS (SJT) TF 1-800-WX-BRIEF. NOTAM FILE SJT.
RCO 122.4(SAN ANGELOFSS)
FORT WORTH CENTER APP/DEP CON 133.7
RADIO AIDS TO NAVIGATION: NOTAM FILE SJT.
(L) VORTACW 144.3 BGS Chan 90 32°23'08"N 101° 10.5NM to fld. 2670/11E.

DALLAS-FT. WORTH
H-21, 5A, L-13A, 15B
IAP

EXCERPT FROM AIRPORT/FACILITY DIRECTORY (21 XS)

Figure 39. – Flight Log and Excerpt from Airport/Facility Directory (21 XS).



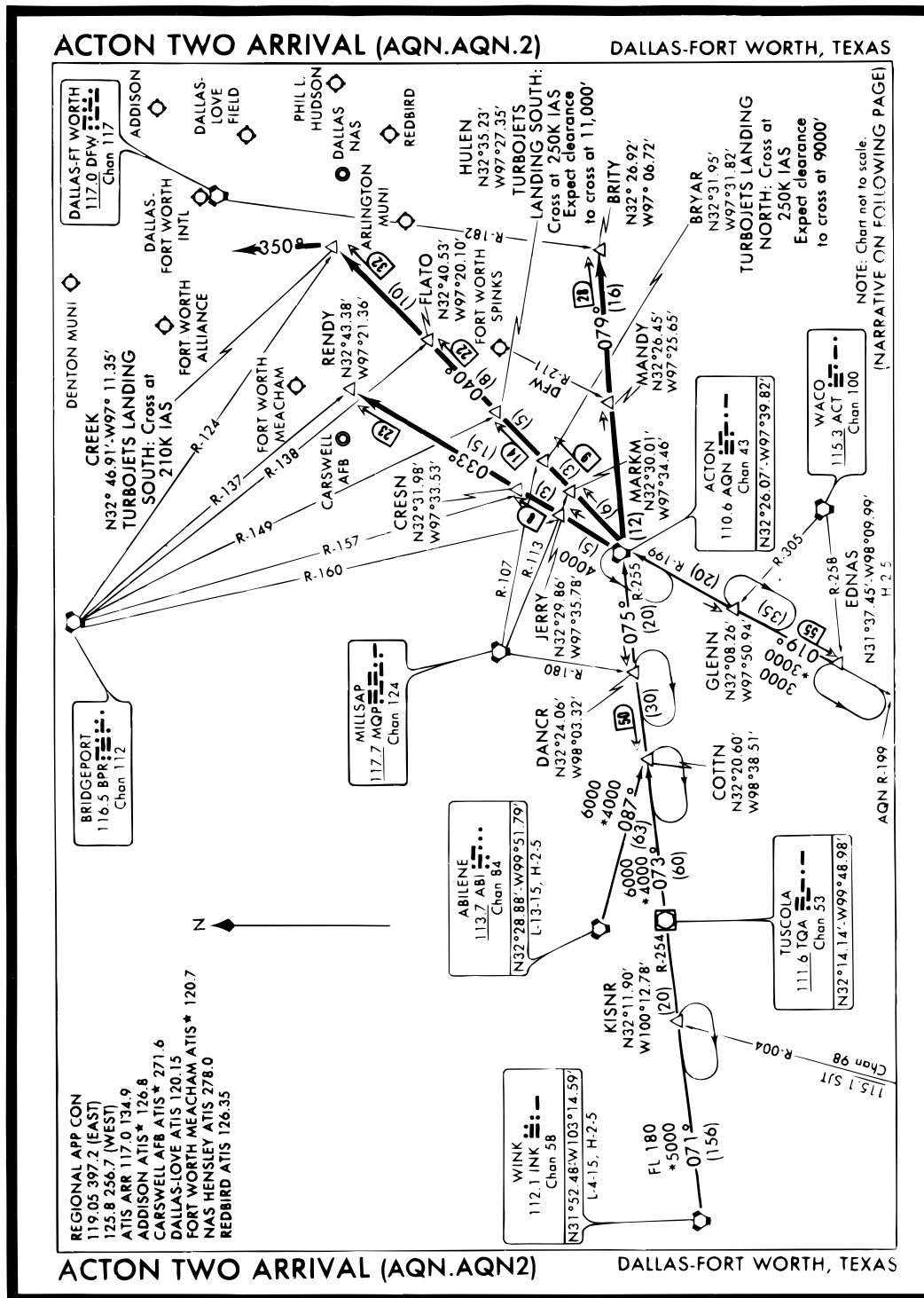


Figure 41. – ACTON Two Arrival.

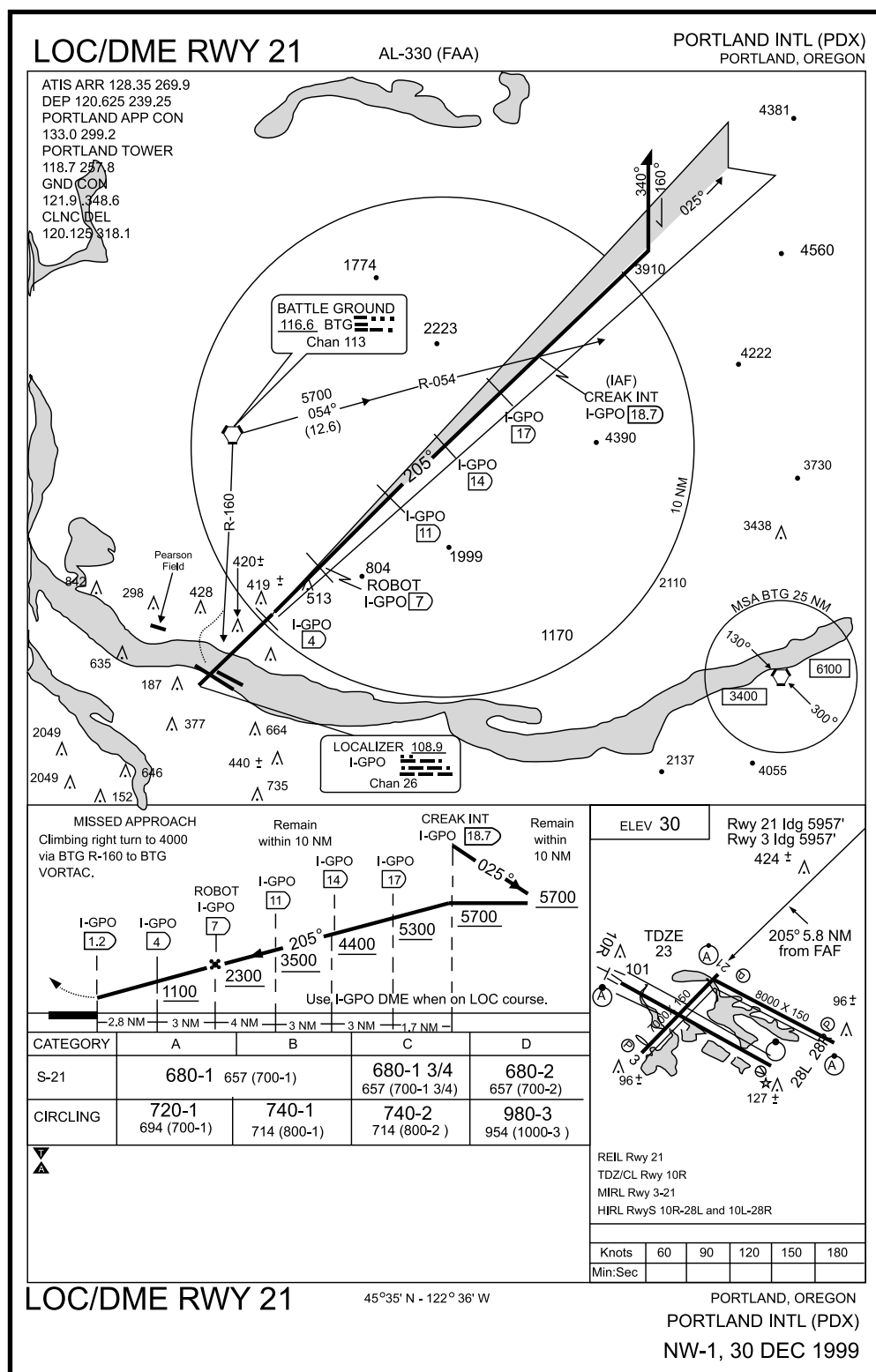


Figure 49. – LOC/DME RWY 21 (PDX).

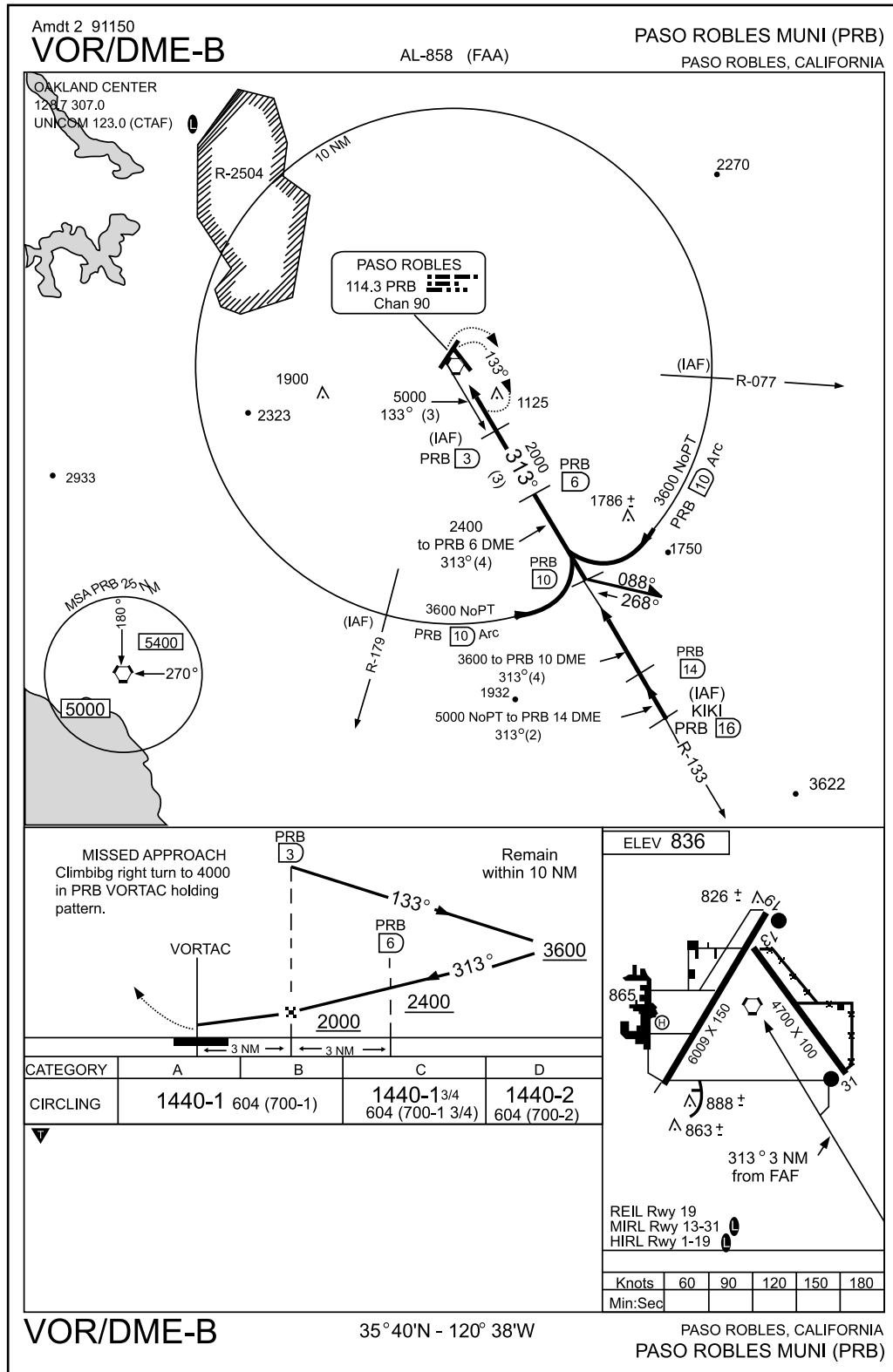


Figure 55. – VOR/DME-B (PRB).



U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		(FAA USE ONLY)		☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER		TIME STARTED	SPECIALIST INITIALS
FLIGHT PLAN							
1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME		7. CRUISING ALTITUDE
VFR	N2142S	C172/	128 KTS	GREENWOOD LAKE 4N1	PROPOSED (Z) ACTUAL (Z)		5000
X IFR							
DVFR							
8. ROUTE OF FLIGHT							
DIRECT SHAFF INT., V213 HELON INT., V58 JUDDS INT., JUDDS2							
9. DESTINATION (Name of airport and city)		10. EST. TIME ENROUTE		11. REMARKS			
BRADLEY INTL. BDL		HOURS	MINUTES				
				INSTRUMENT TRAINING FLIGHT			
12. FUEL ON BOARD		13. ALTERNATE AIRPORT(S)		14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE		15. NUMBER ABOARD	
HOURS	MINUTES						
		N/A		17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)		2	
16. COLOR OF AIRCRAFT		CIVIL AIRCRAFT PILOTS: FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.					
BROWN/TAN/WHITE							

FAA Form 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

AIRCRAFT INFORMATION

MAKE Cessna

MODEL 172

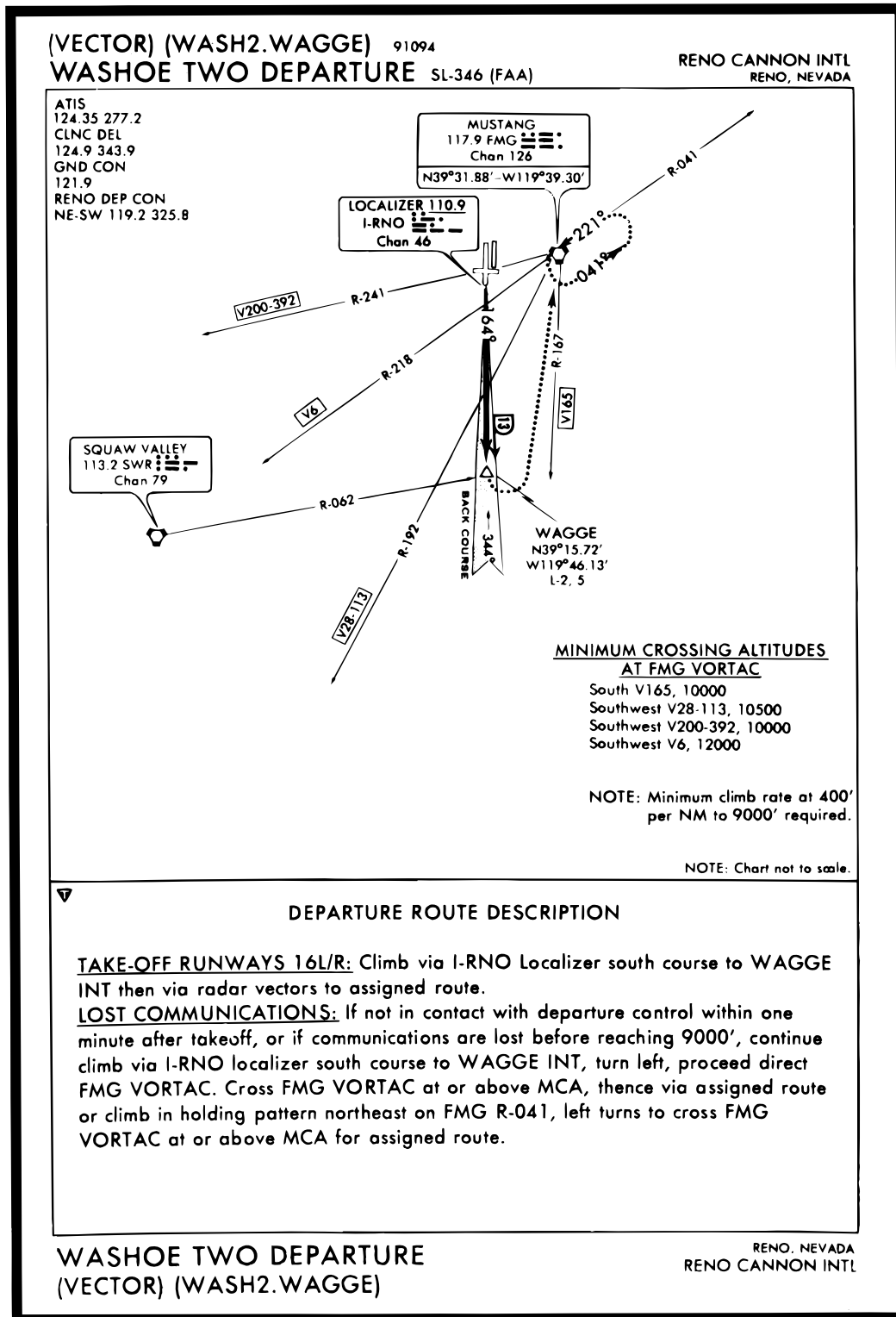
N 2142S

V_{so} 33

AIRCRAFT EQUIPMENT/STATUS**

**NOTE: X= OPERATIVE INOP= INOPERATIVE N/A= NOT APPLICABLE
 TRANSPONDER: X (MODE C) X ILS: (LOCALIZER) X (GLIDE SLOPE) X
 VOR NO. 1 X (NO. 2) X ADF: X RNAV: N/A
 VERTICAL PATH COMPUTER: N/A DME: X
 MARKER BEACON: X (AUDIO) INOP (VISUAL) X

Figure 69. – Flight Plan and Aircraft Information.



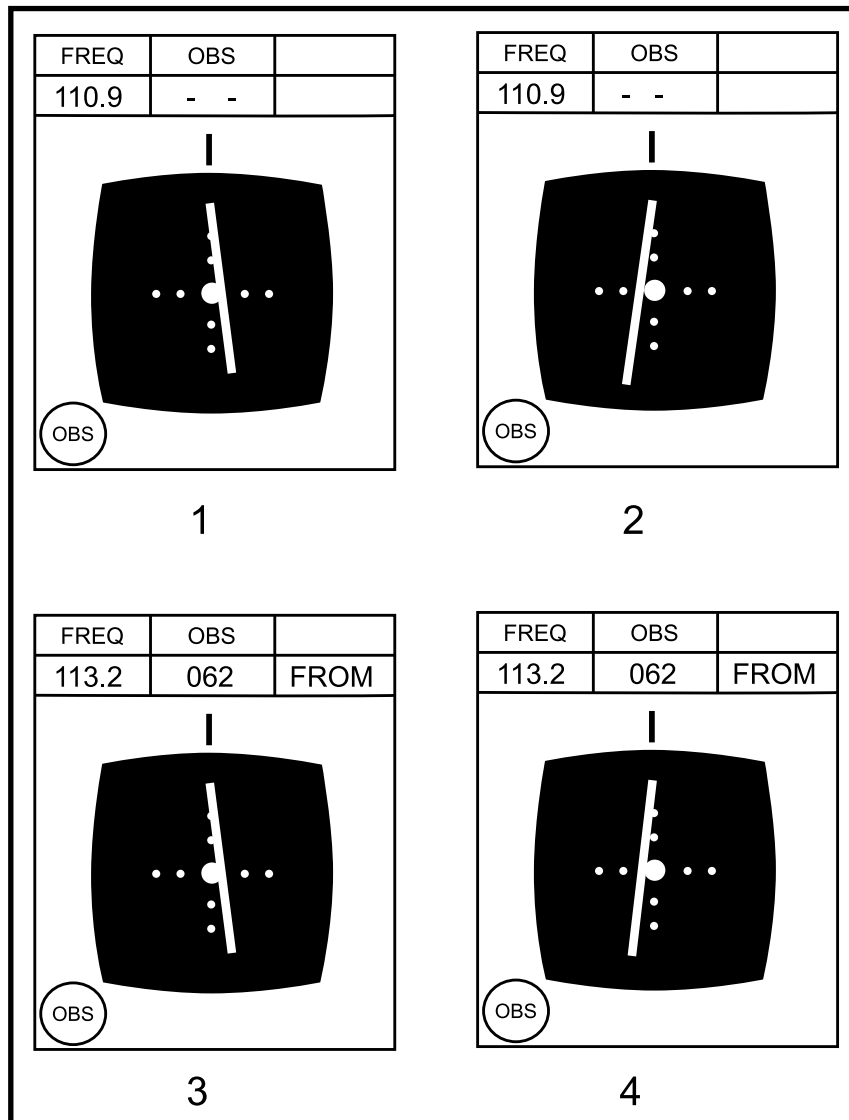


Figure 86. – CDI and OBS Indicators.

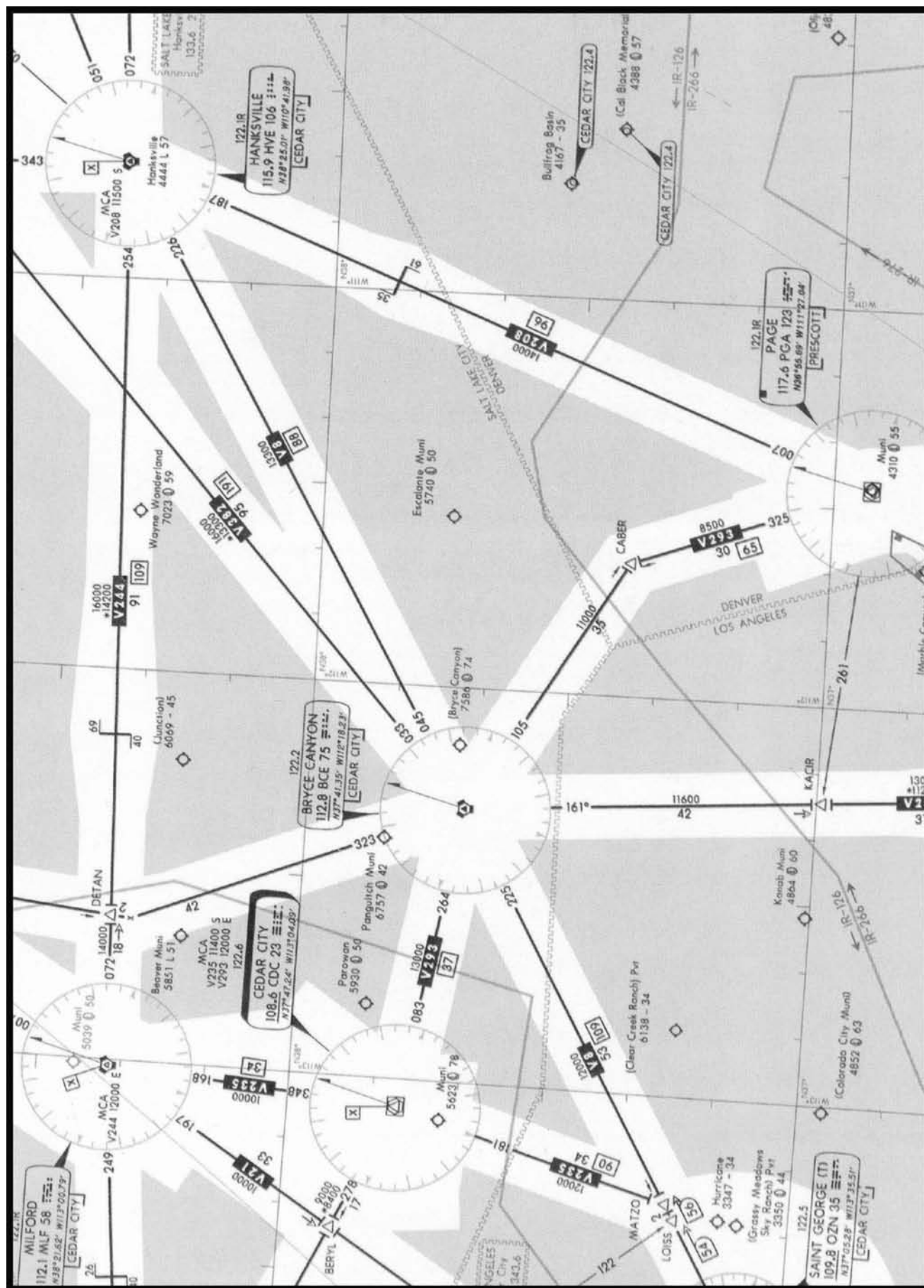


Figure 89. – En Route Chart Segment.



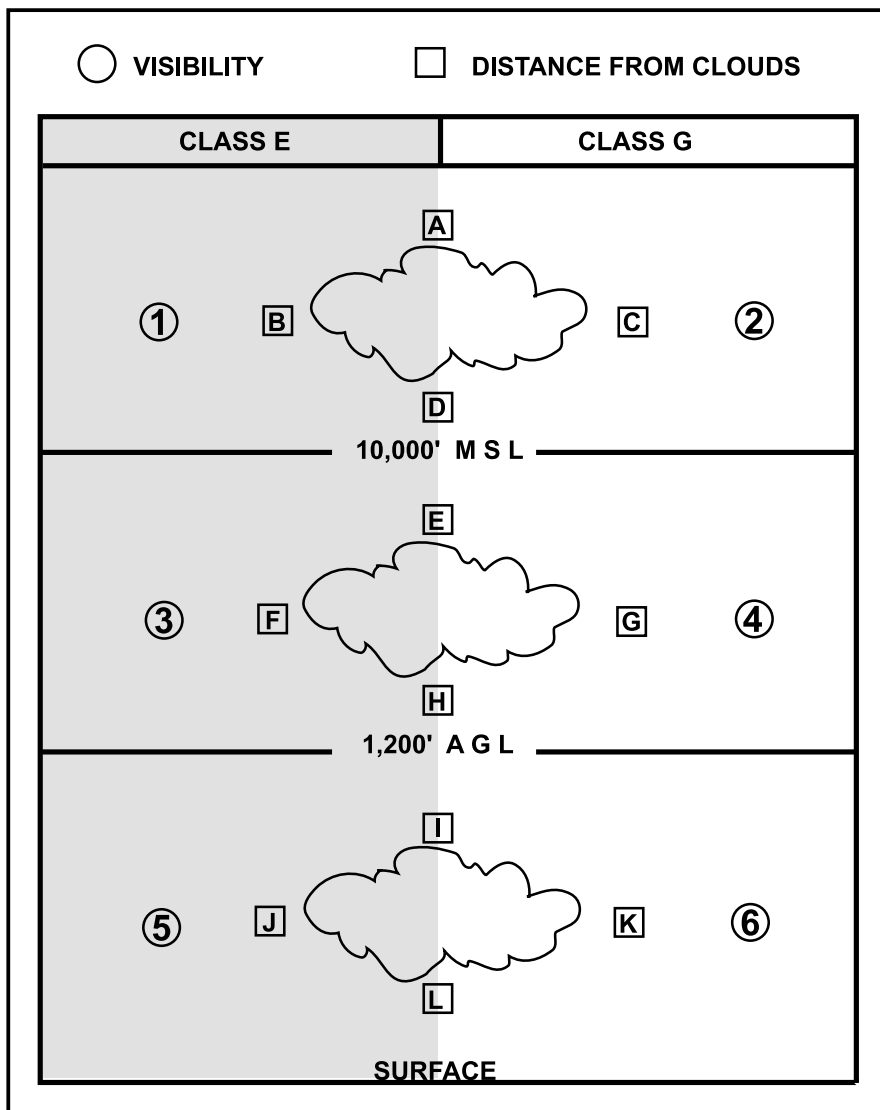


Figure 92. – Minimum In-Flight Visibility and Distance from Clouds.

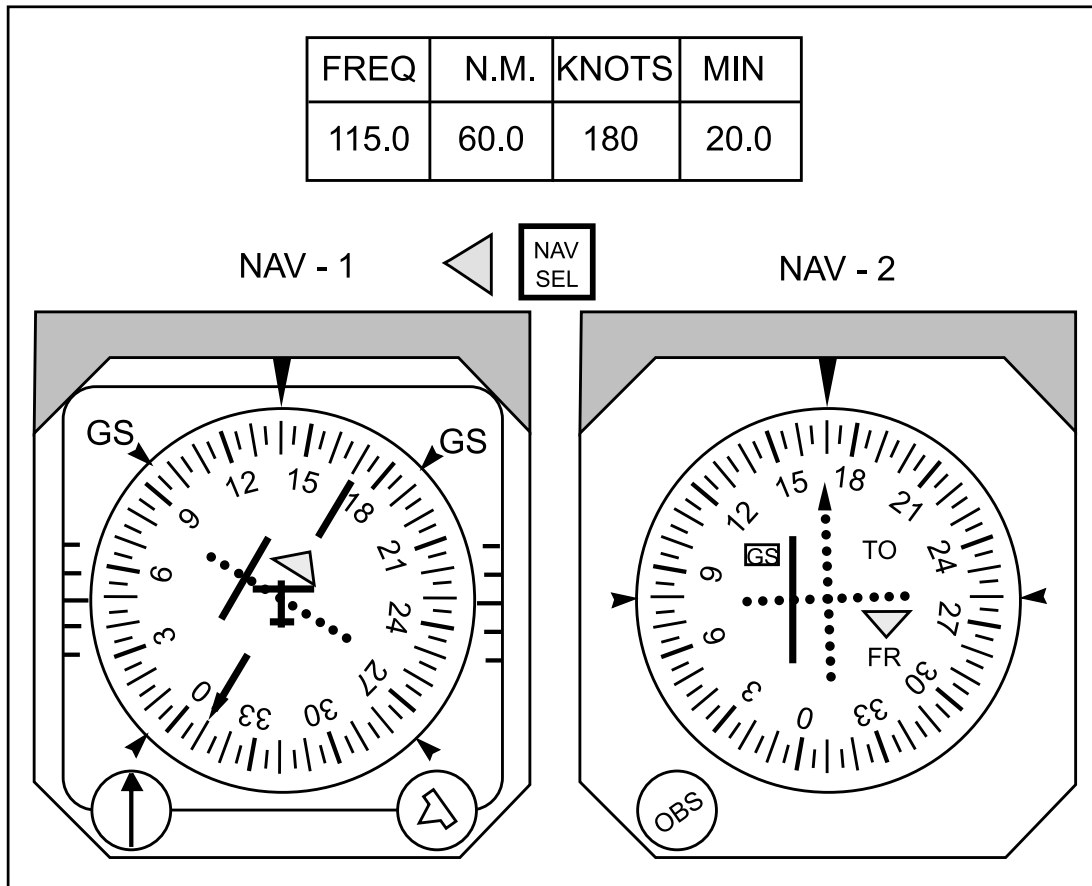


Figure 95. – No. 1 and No. 2 NAV Presentation.

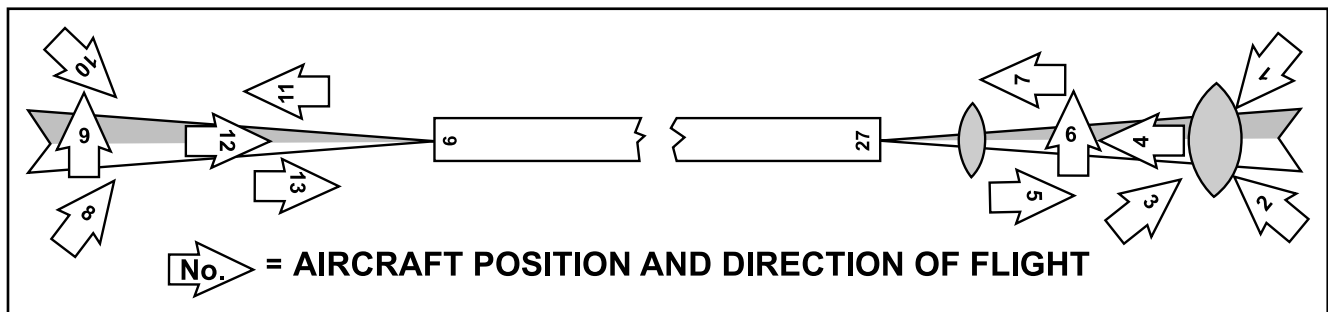


Figure 96. – Aircraft Position and Direction of Flight.

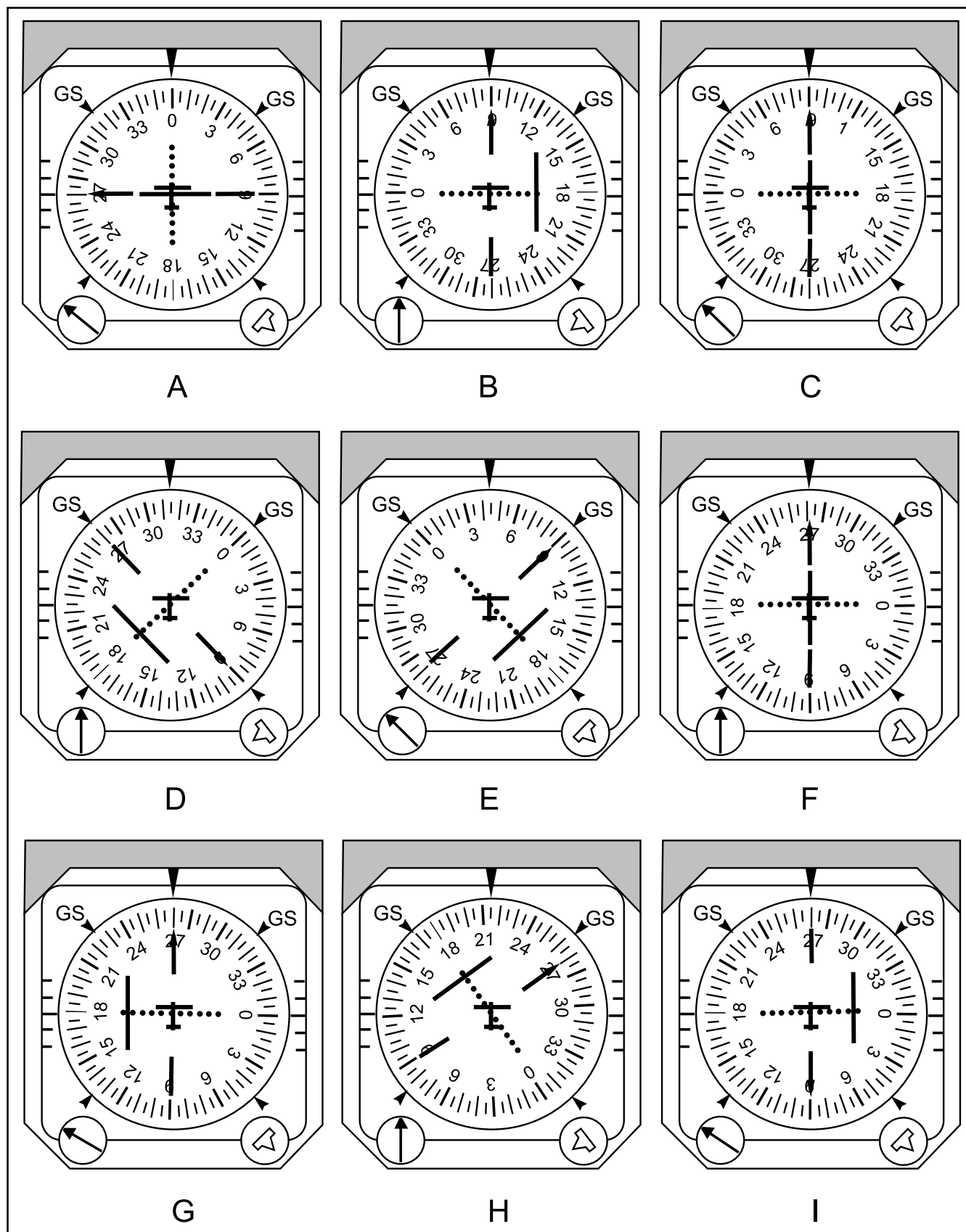


Figure 97. – HSI Presentation.

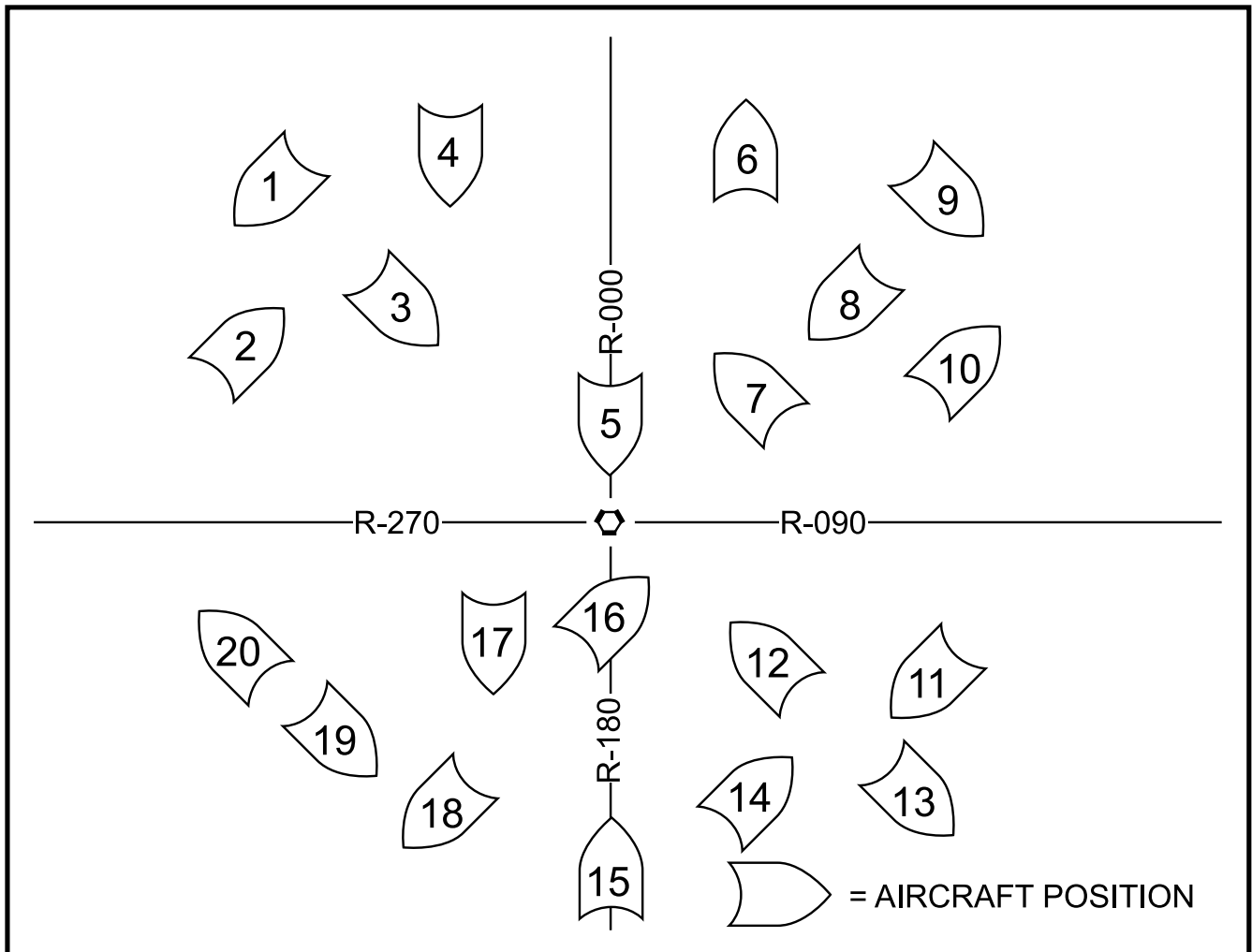


Figure 98. – Aircraft Position.

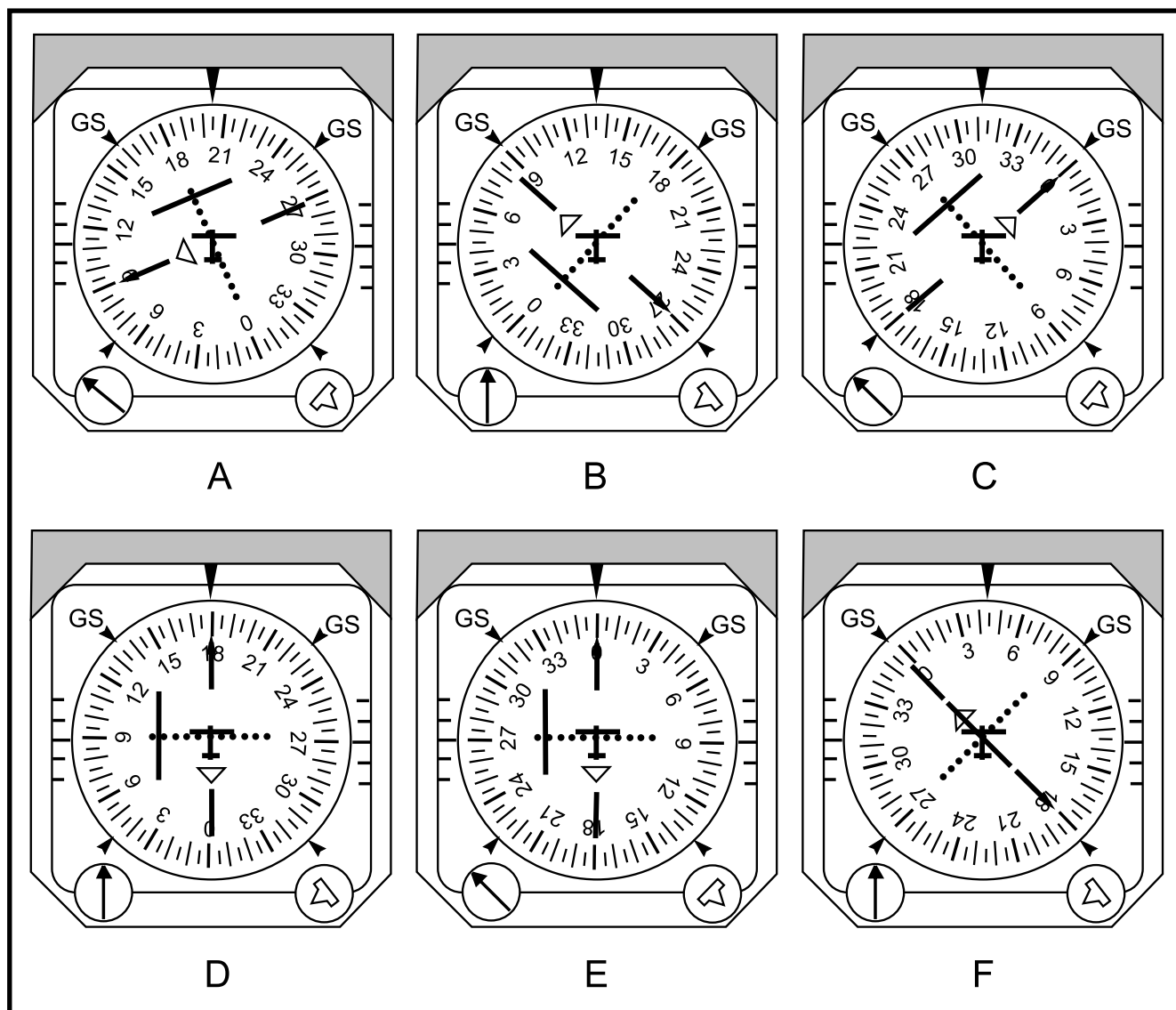


Figure 99. – HSI Presentation.

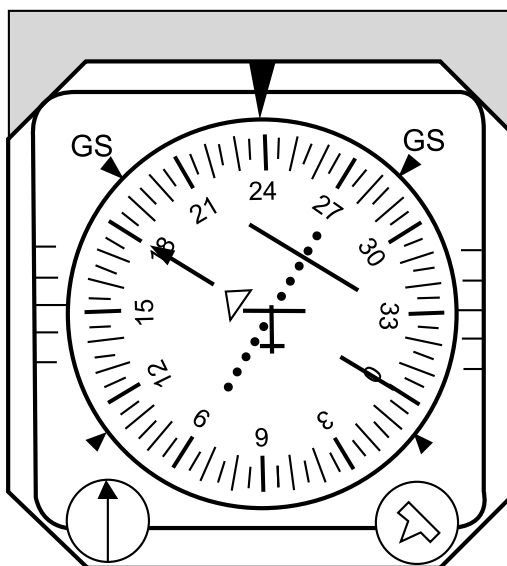


Figure 109. – CDI Direction from VORTAC.

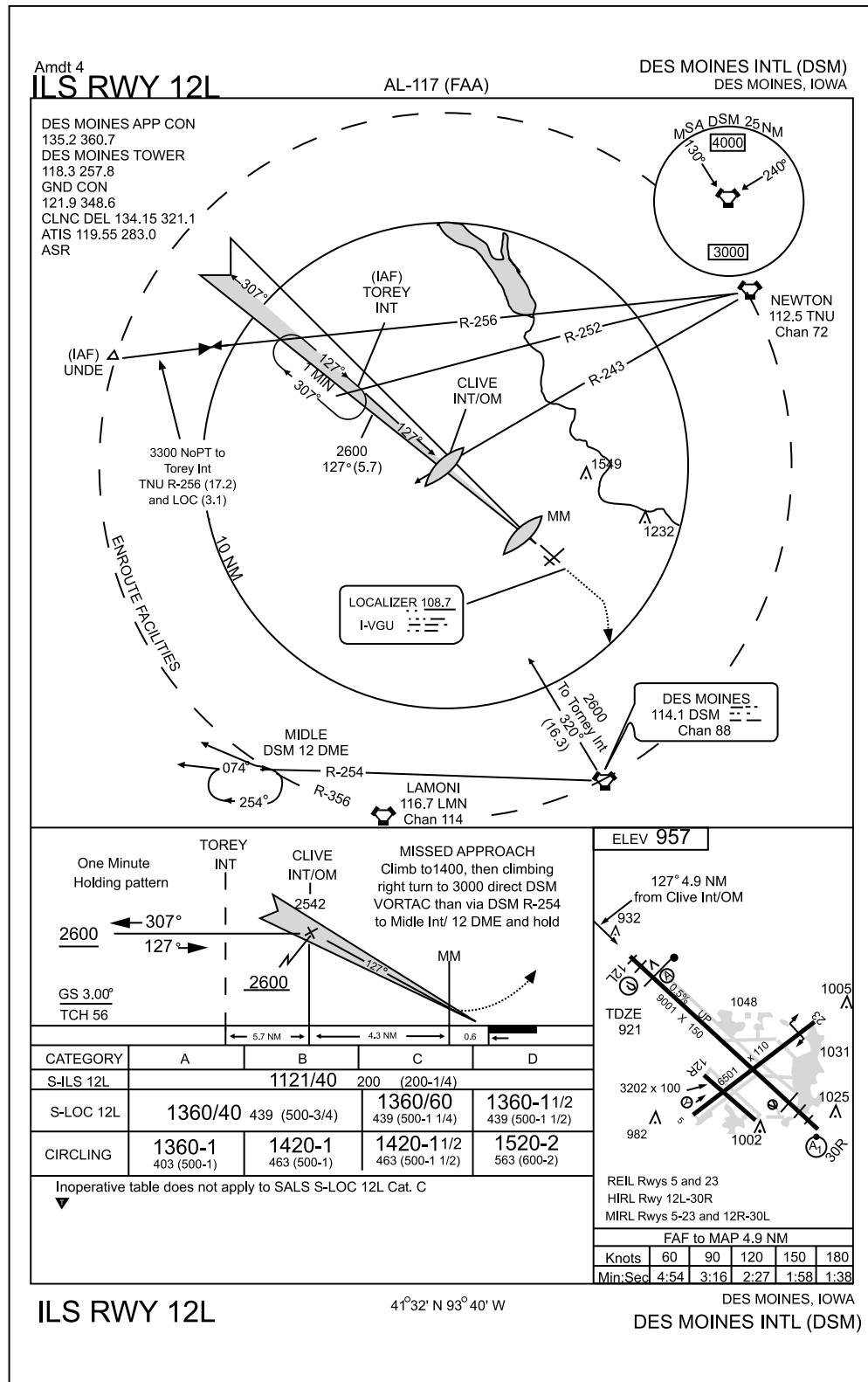


Figure 118. – ILS RWY 12L (DSM).

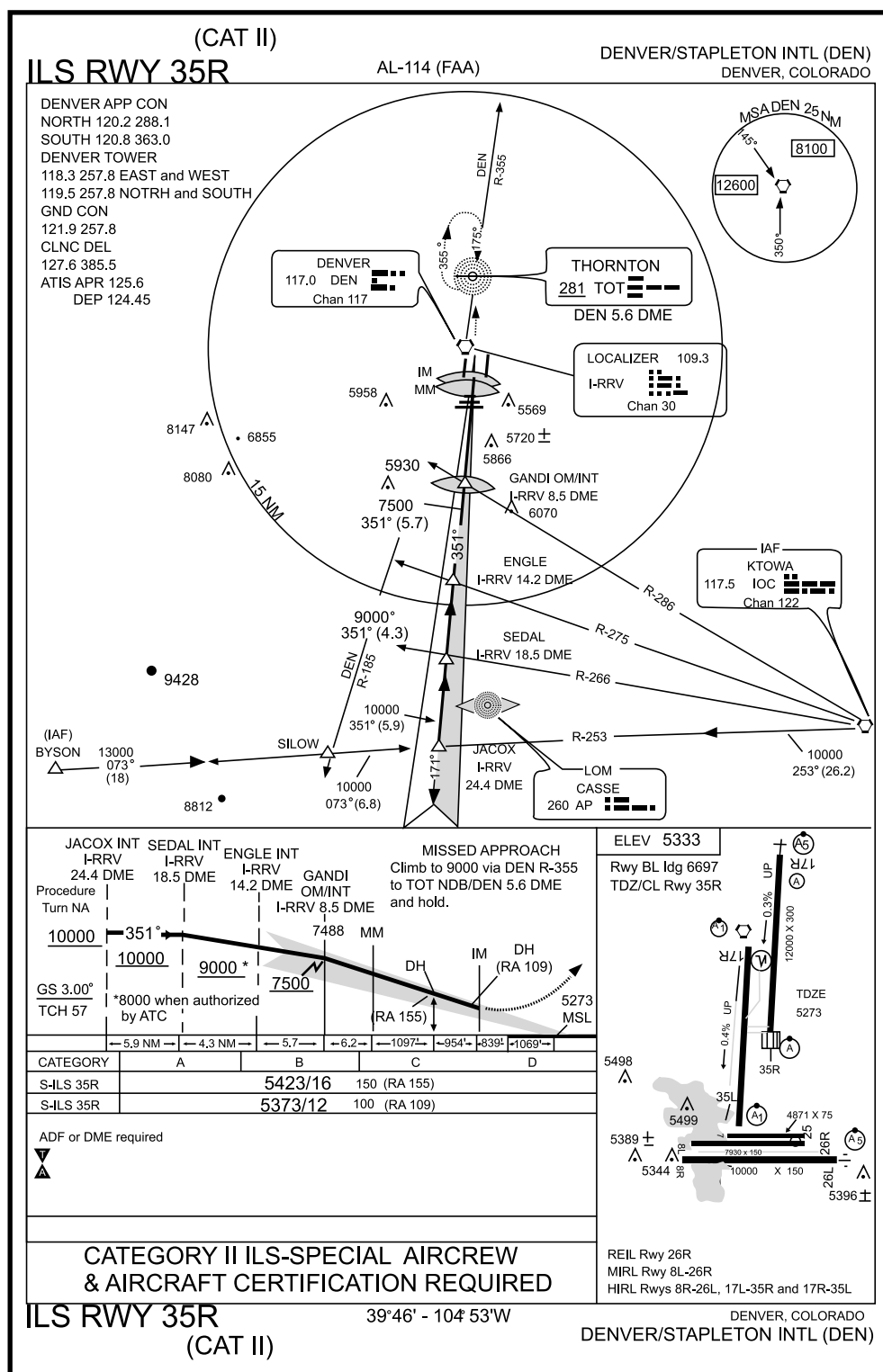


Figure 120. – ILS RWY 35R (DEN).

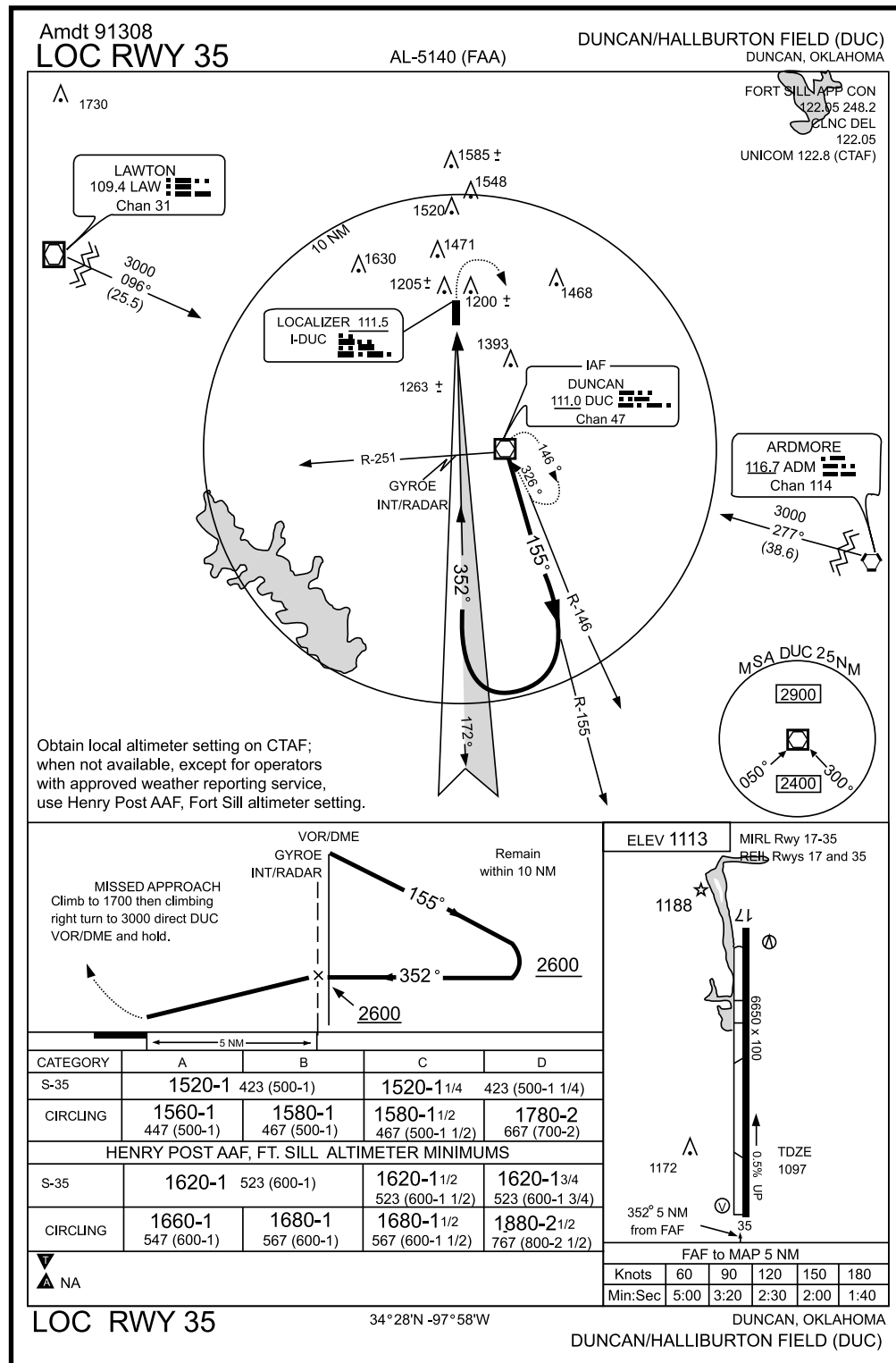


Figure 124. – LOC RWY 35, Duncan, Oklahoma.

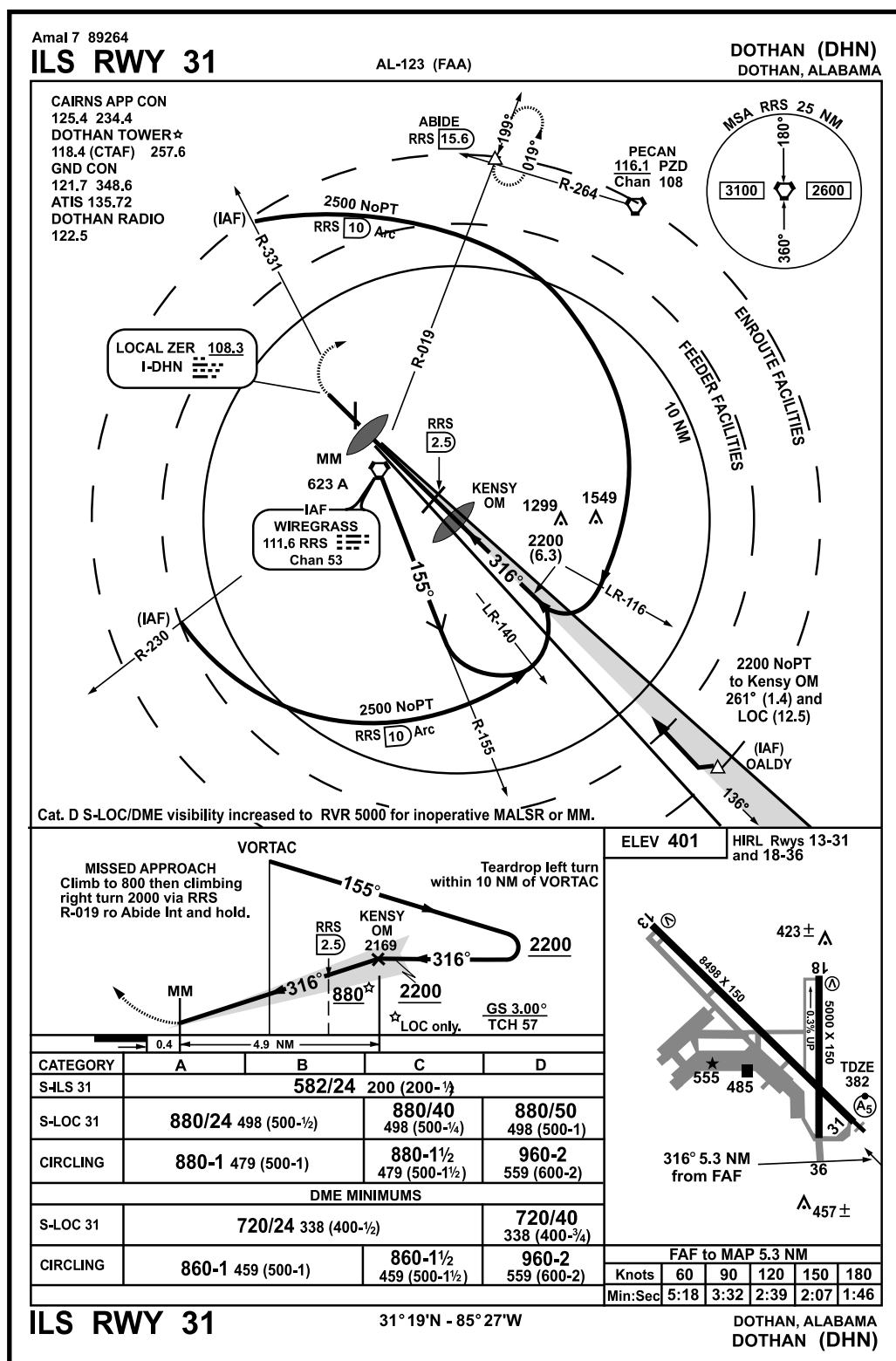


Figure 126. – ILS RWY 31, Dothan, Alabama.

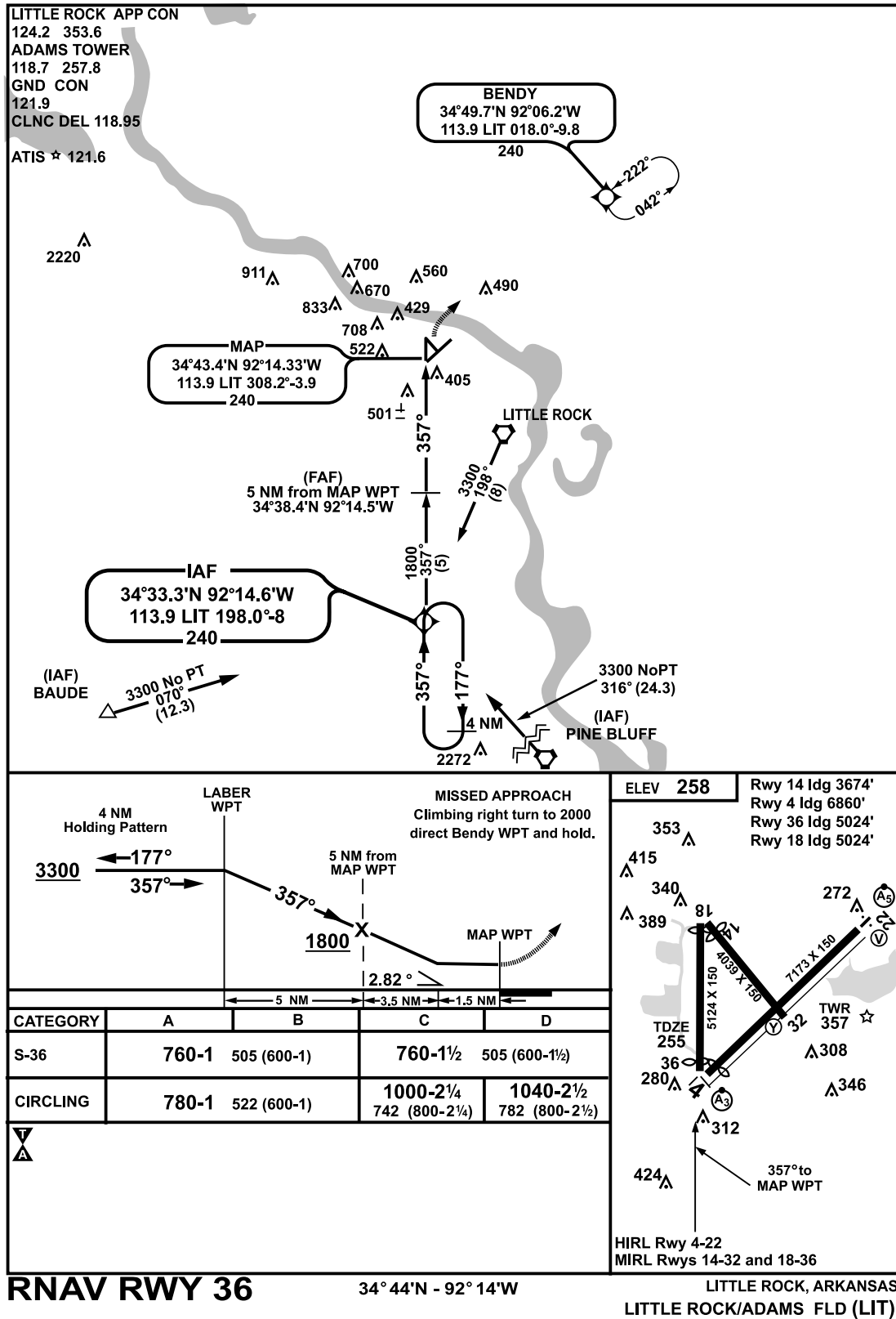


Figure 129. – RNAV RWY 36 (LIT).

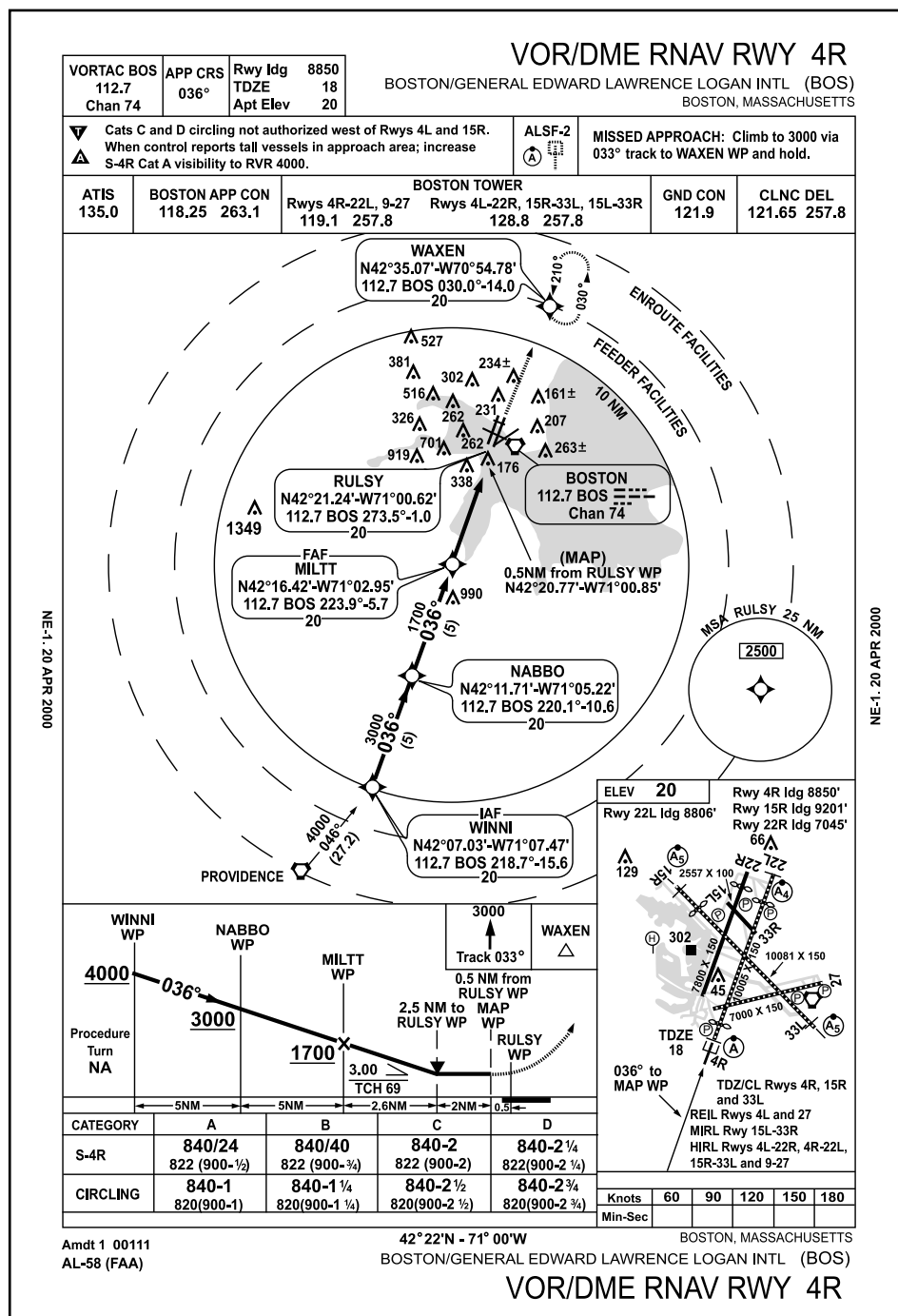


Figure 131. – VOR/DME RNAV RWY 4R.

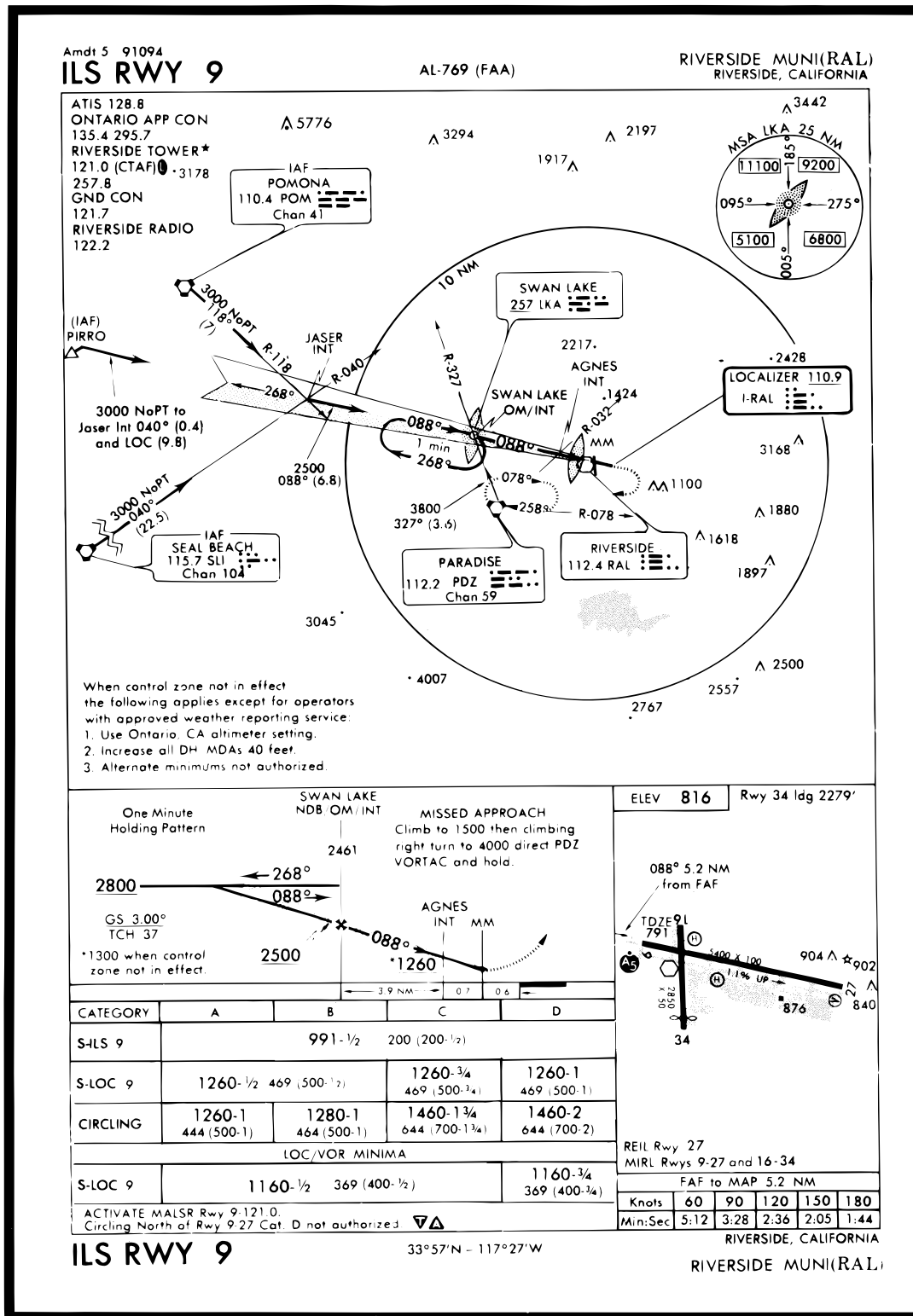


Figure 133. – ILS RWY 9 (RAL).

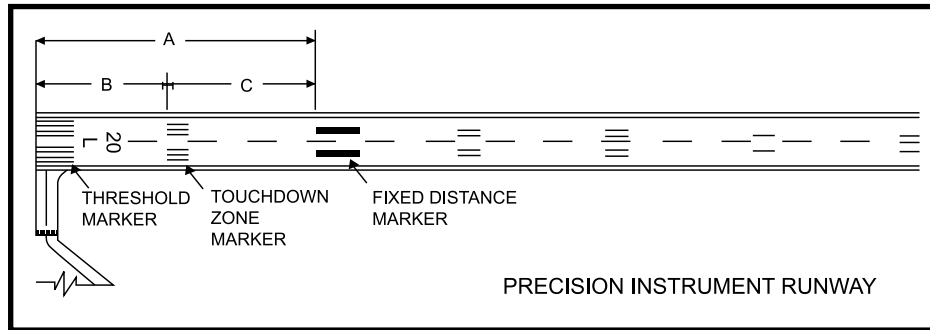


Figure 137. – Precision Instrument Runway.

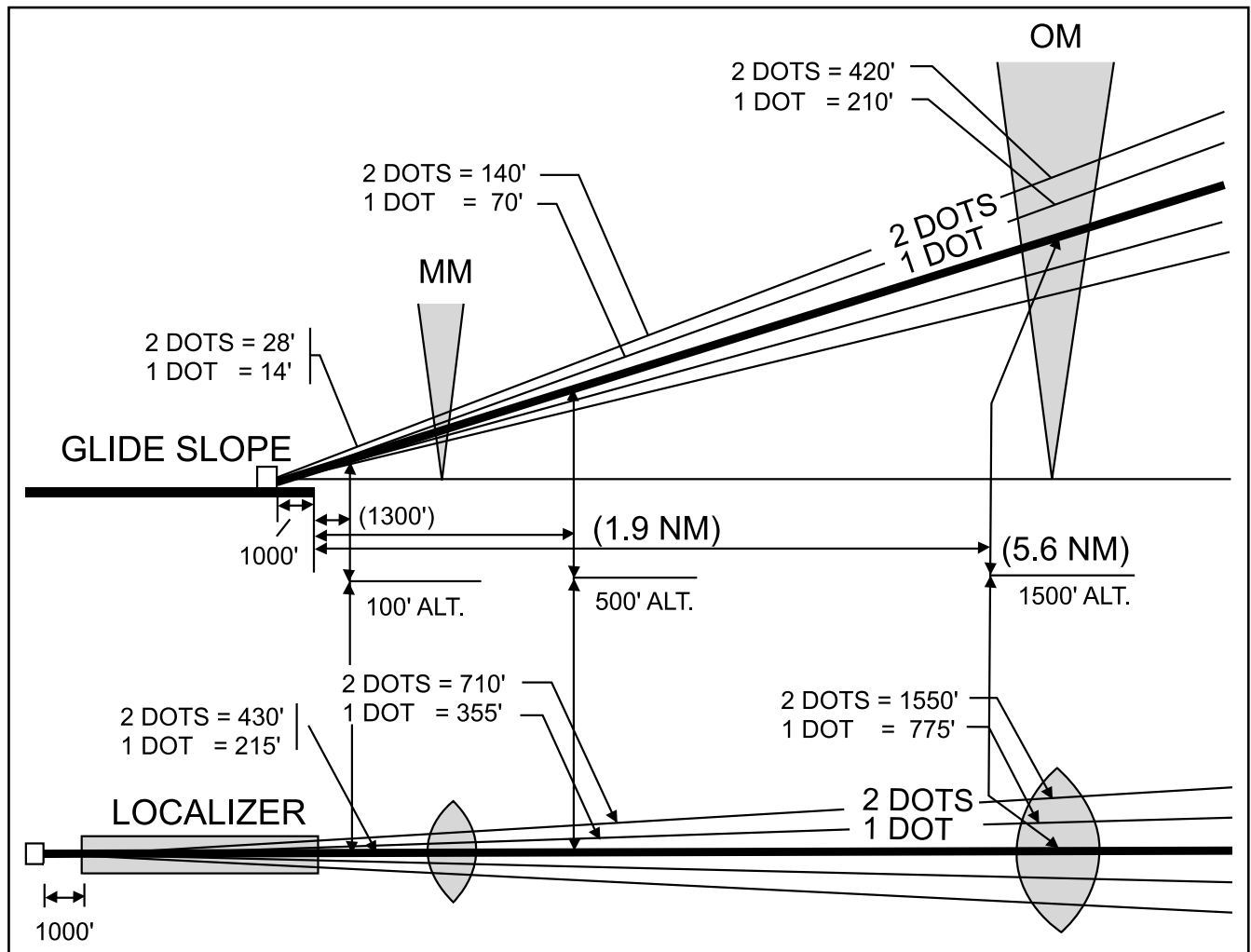


Figure 139. – Glide Slope and Localizer Illustration.

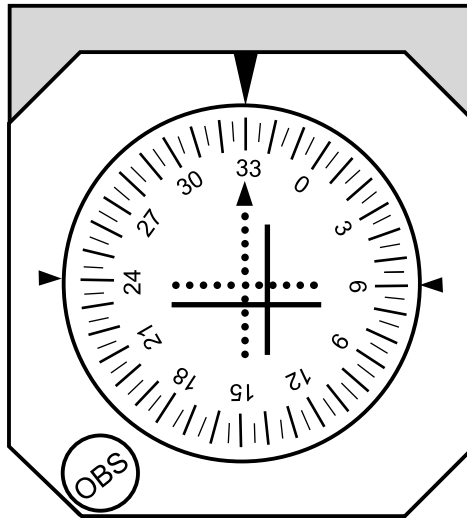


Figure 141. – OBS, ILS, and GS Displacement.



Figure 147. – Instrument Sequence (Unusual Attitude).

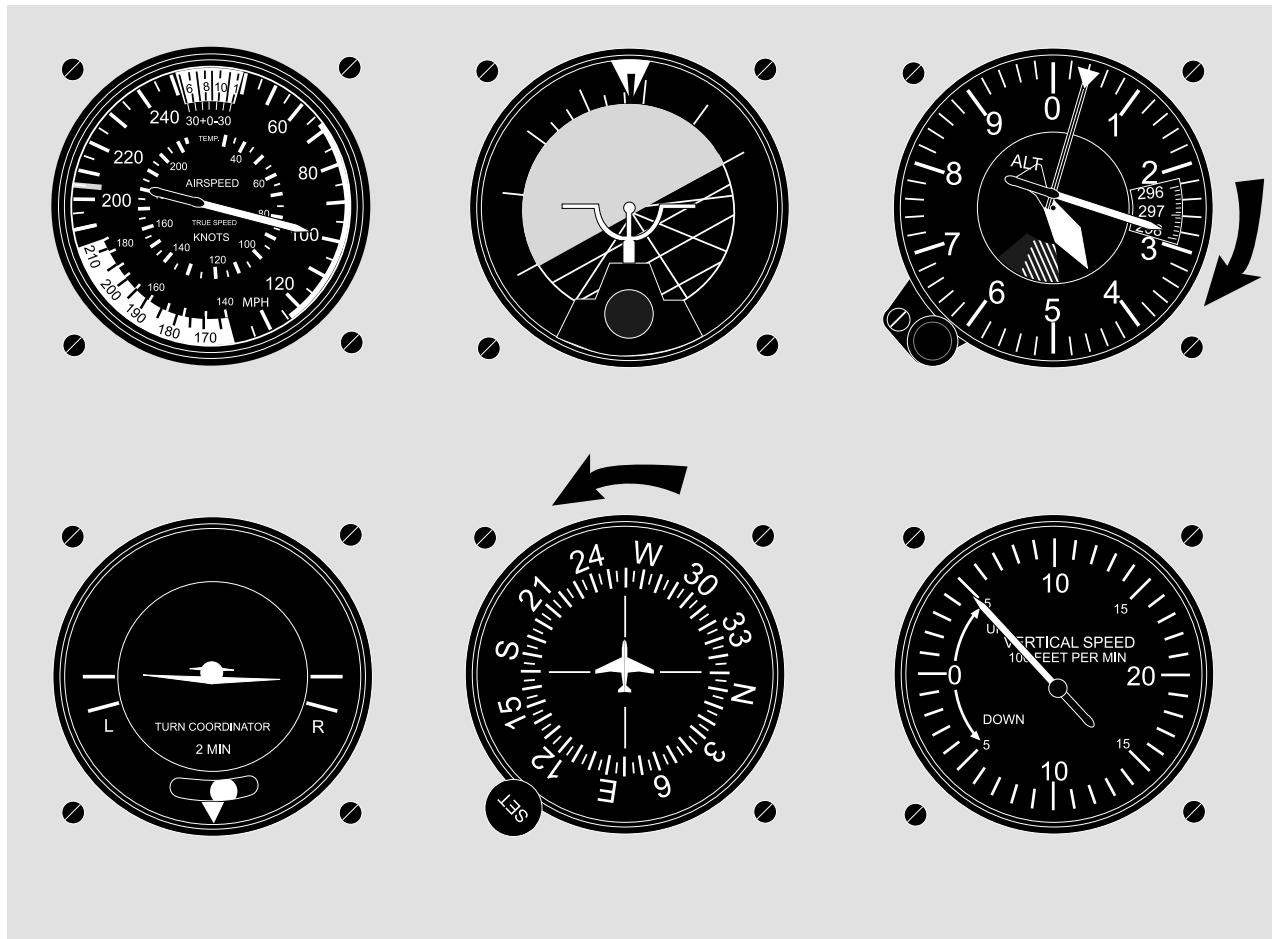


Figure 148. – Instrument Interpretation (System Malfunction).

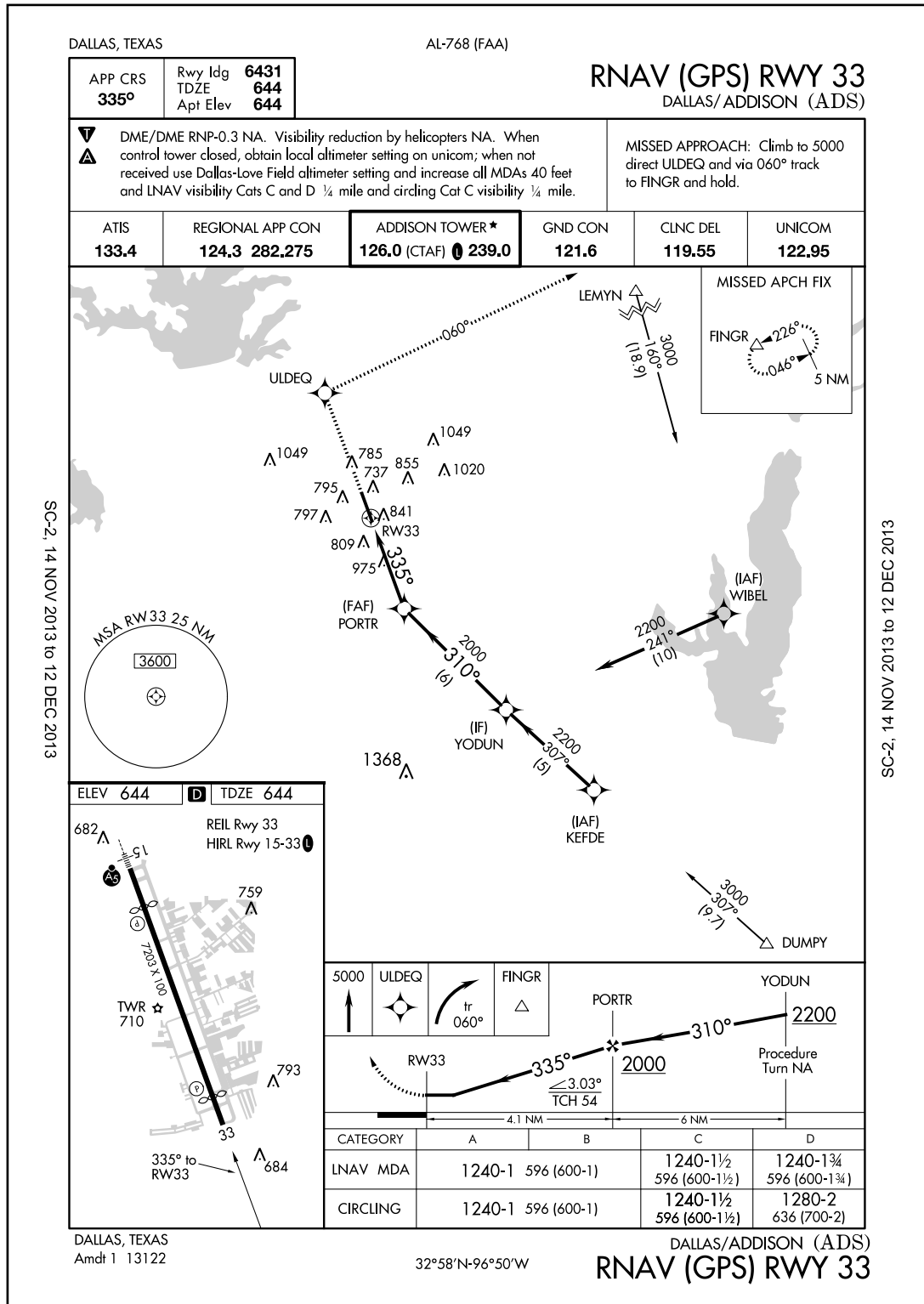


Figure 171.

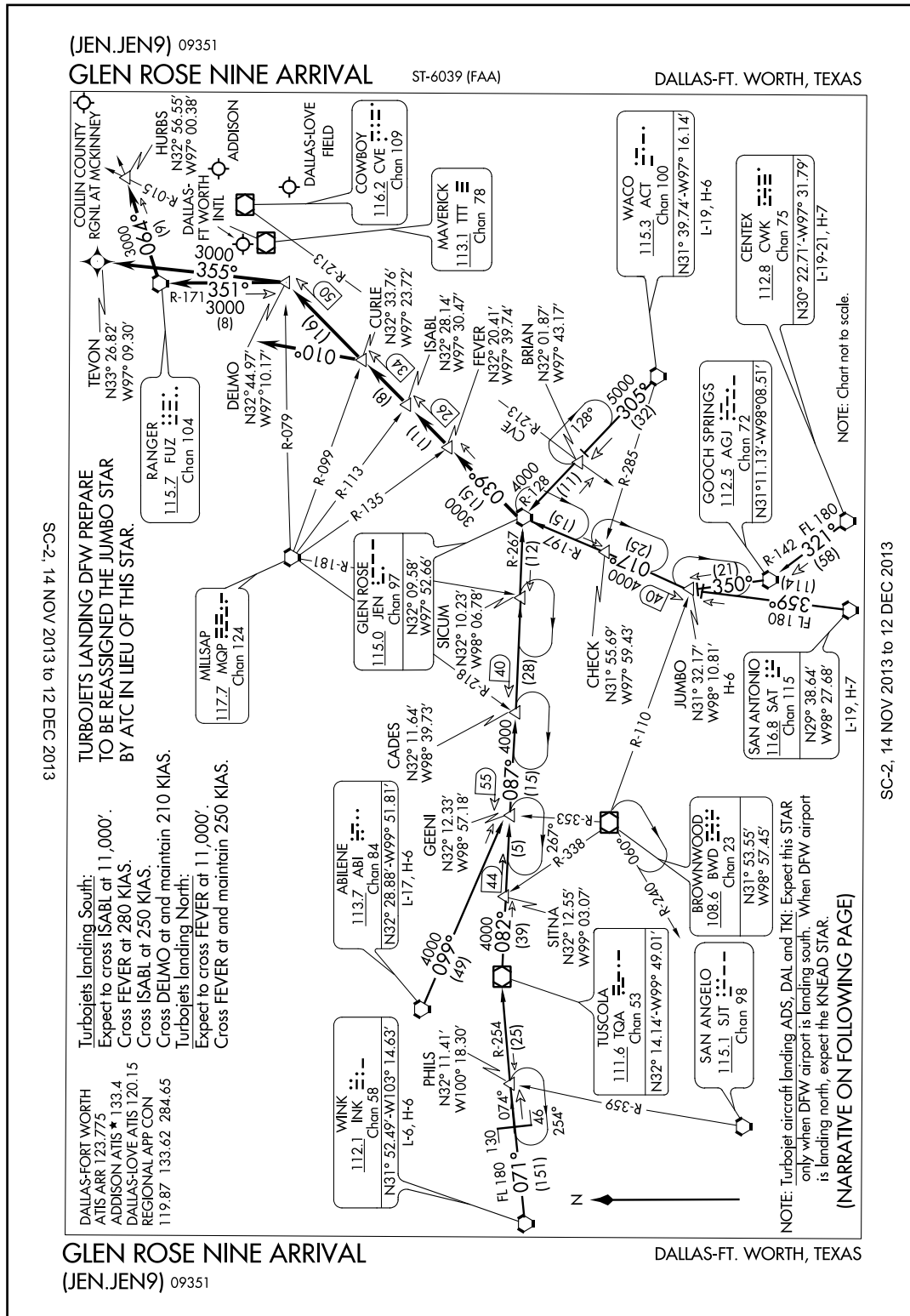


Figure 174.

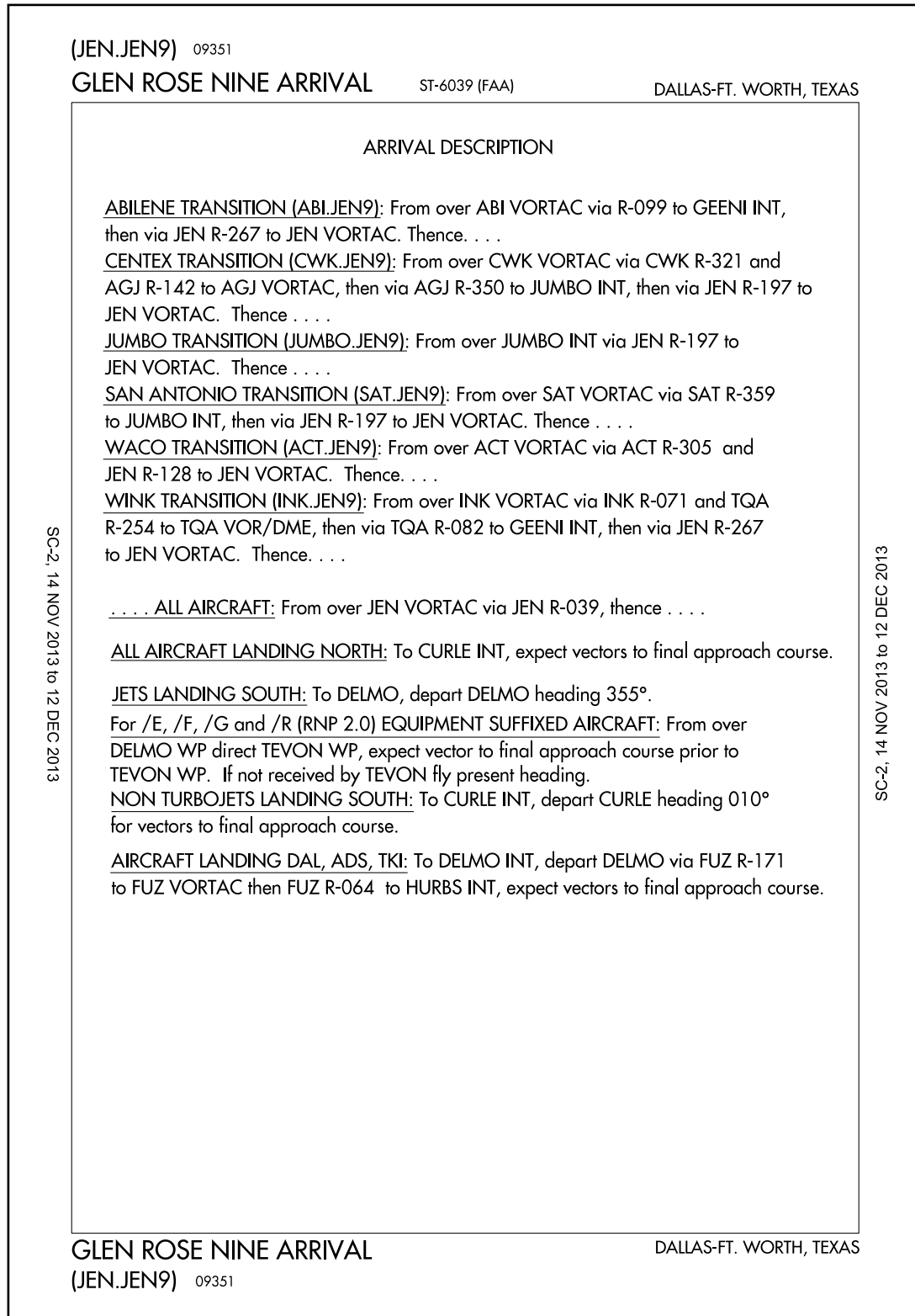


Figure 175.

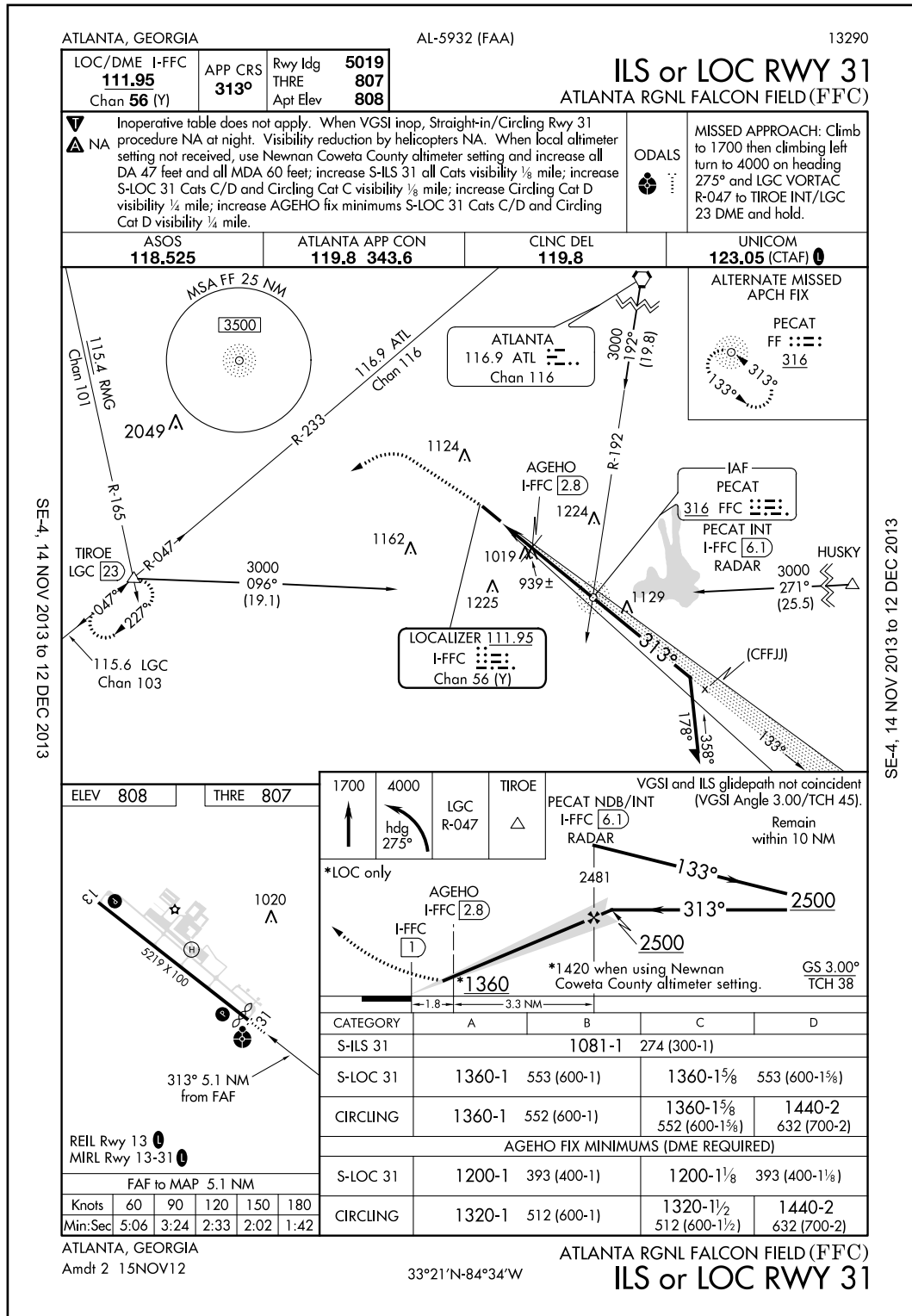


Figure 228.

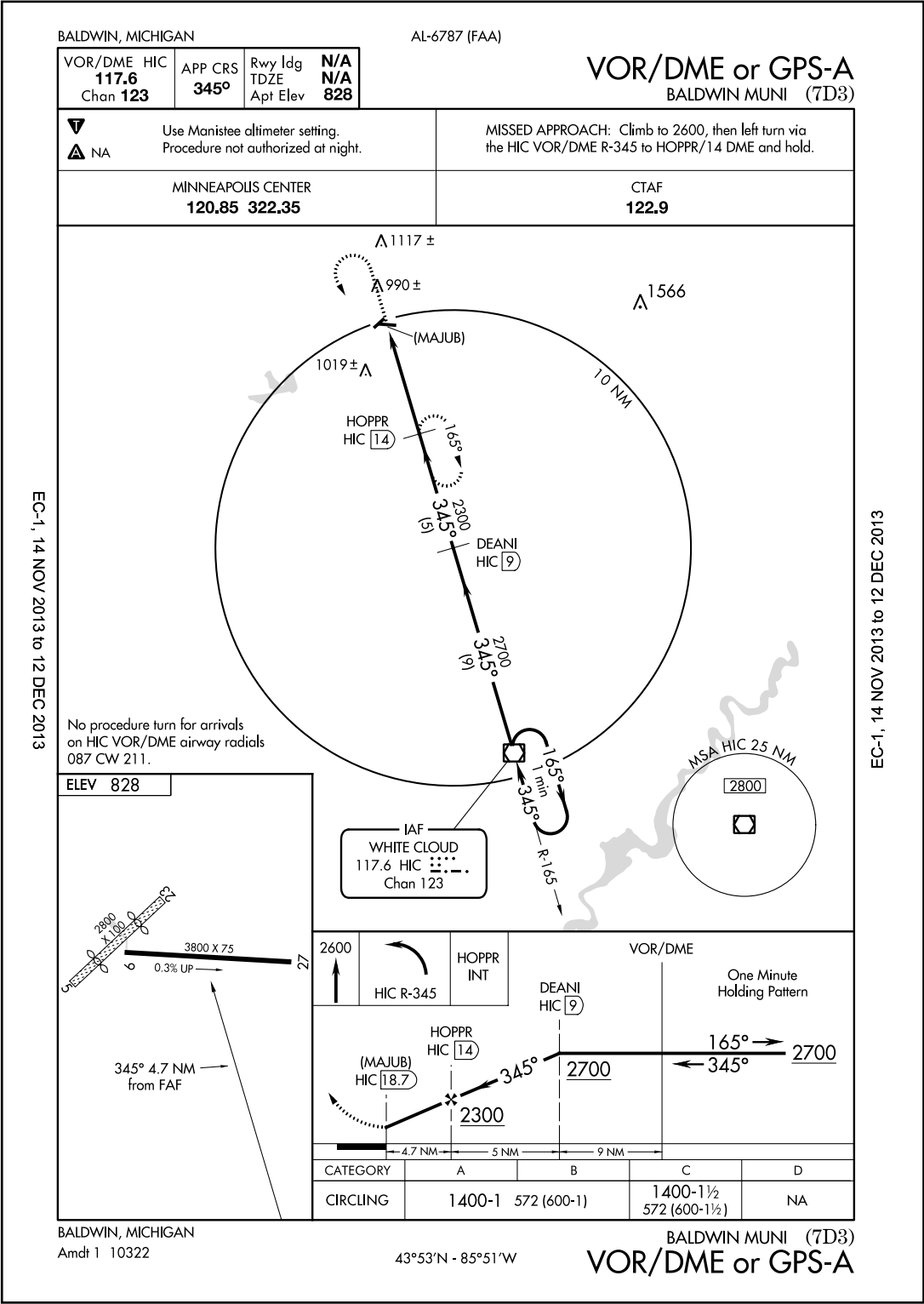


Figure 230.

130

MICHIGAN

BALDWIN MUNI (7D3) 2 S UTC-5(-4DT) N43°52.53' W85°50.53'

CHICAGO

828 TPA—1828(1000) NOTAM FILE LAN

L-28I

RWY 09-27: H3800X75 (ASPH) S-10 0.3% up E

IAP

RWY 09: Trees.

RWY 27: Trees.

RWY 05-23: 2800X100 (TURF)

RWY 05: Thld dsplcd 800'. Trees.

RWY 23: Thld dsplcd 800'. Trees.

AIRPORT REMARKS: Unattended. Deer on and invof arpt. Arpt CLOSED Nov thru Apr; no snow removal. Arpt manager cell 231-250-2551. Rwy 09-27 sfc considerable pavement cracking with vegetation growing through cracks. Rwy 05-23 and dsplcd thlds marked with 3' yellow cones.

COMMUNICATIONS: CTAF 122.9

® MINNEAPOLIS CENTER APP/DEP CON 120.85

RADIO AIDS TO NAVIGATION: NOTAM FILE LAN.**WHITE CLOUD (L) VOR/DME** 117.6 HIC Chan 123 N43°34.49'

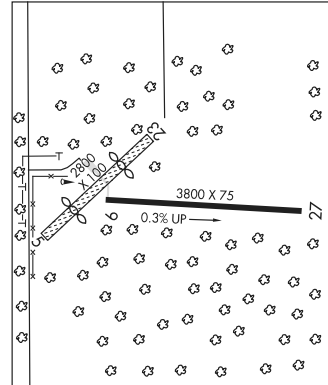
W85°42.97' 344° 18.9 NM to fld. 920/1W.

VOR/DME unusable:

020°-090° byd 30 NM blo 3,000'

DME portion unusable:

270°-290° byd 35 NM blo 3,000'

**BANGU** N45°00.88' W84°48.49' NOTAM FILE GLR.

LAKE HURON

NDB (LOM) 375 GL 097° 4.5 NM to Gaylord Rgnl. Unmonitored.

BANNISTER

SHADY LAWN FLD (4M4) 2 E UTC-5(-4DT) N43°07.72' W84°22.88'

CHICAGO

680 TPA—1680(1000) NOTAM FILE LAN

RWY 09-27: 1850X50 (TURF) LIRL

RWY 09: Bldg.

RWY 27: Trees.

AIRPORT REMARKS: Attended irregularly. Ultralight and AG activity on and invof arpt. Deer and birds on and invof arpt. Crops adjacent to rwy during summer months. NSTD LIRL color and configuration, by prior arrangement. Rwy 09 and Rwy 27 marked by 3' yellow cones.

COMMUNICATIONS: CTAF 122.9**BARAGA** (2P4) 4 W UTC-5(-4DT) N46°47.10' W88°34.67'

GREEN BAY

845 TPA—1845(1000) NOTAM FILE GRB

RWY 09-27: 2200X100 (TURF)

RWY 09: Trees.

RWY 27: Trees.

AIRPORT REMARKS: Unattended. Arpt CLOSED Nov-Apr except to ski equipped acft. 25' p-line 850' from thld Rwy 27. Deer and birds on and invof arpt.

COMMUNICATIONS: CTAF 122.9

BATH

UNIVERSITY AIRPARK (41G) 2 NW UTC-5(-4DT) N42°50.42' W84°28.75'

DETROIT

856 B S2 NOTAM FILE LAN

RWY 08-26: 1988X100 (TURF) LIRL

RWY 08: Trees.

RWY 26: Tree.

AIRPORT REMARKS: Attended irregularly. Rwy 08-26 occasionally soft/wet areas E end during spring thaw and after heavy rain. ACTIVATE LIRL Rwy 08-26 and NSTD rotating bcn—122.85. NSTD flashing strobe and alternating white/red bcn. Rwy 08-26 marked with 3' yellow cones.

COMMUNICATIONS: CTAF 122.9**BATOL** N42°21.72' W85°11.07' NOTAM FILE BTL.

CHICAGO

NDB (MHW/LOM) 272 BT 225° 4.4 NM to W K Kellogg.

L-28I

EC, 17 OCT 2013 to 12 DEC 2013

Figure 231.

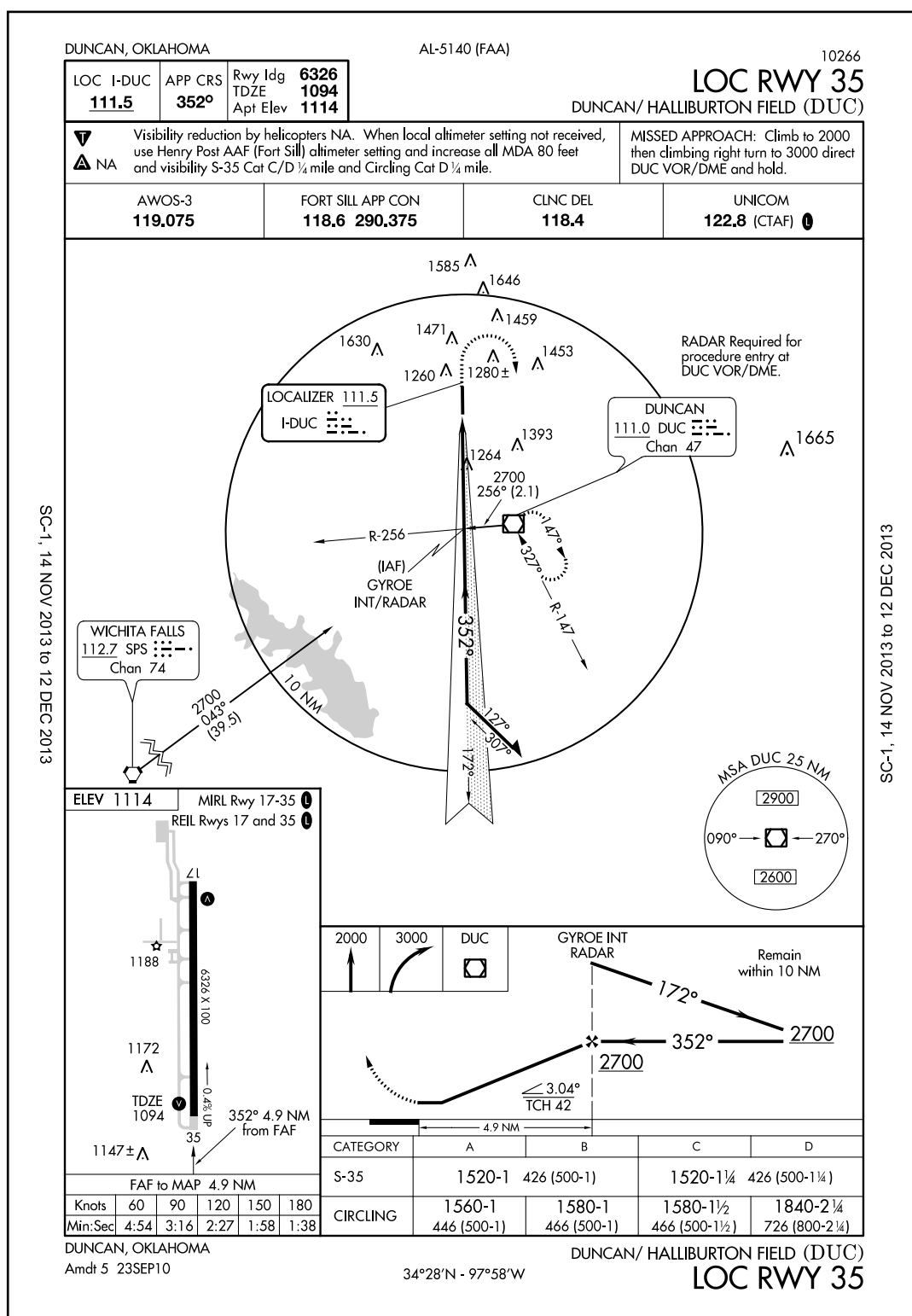


Figure 232.

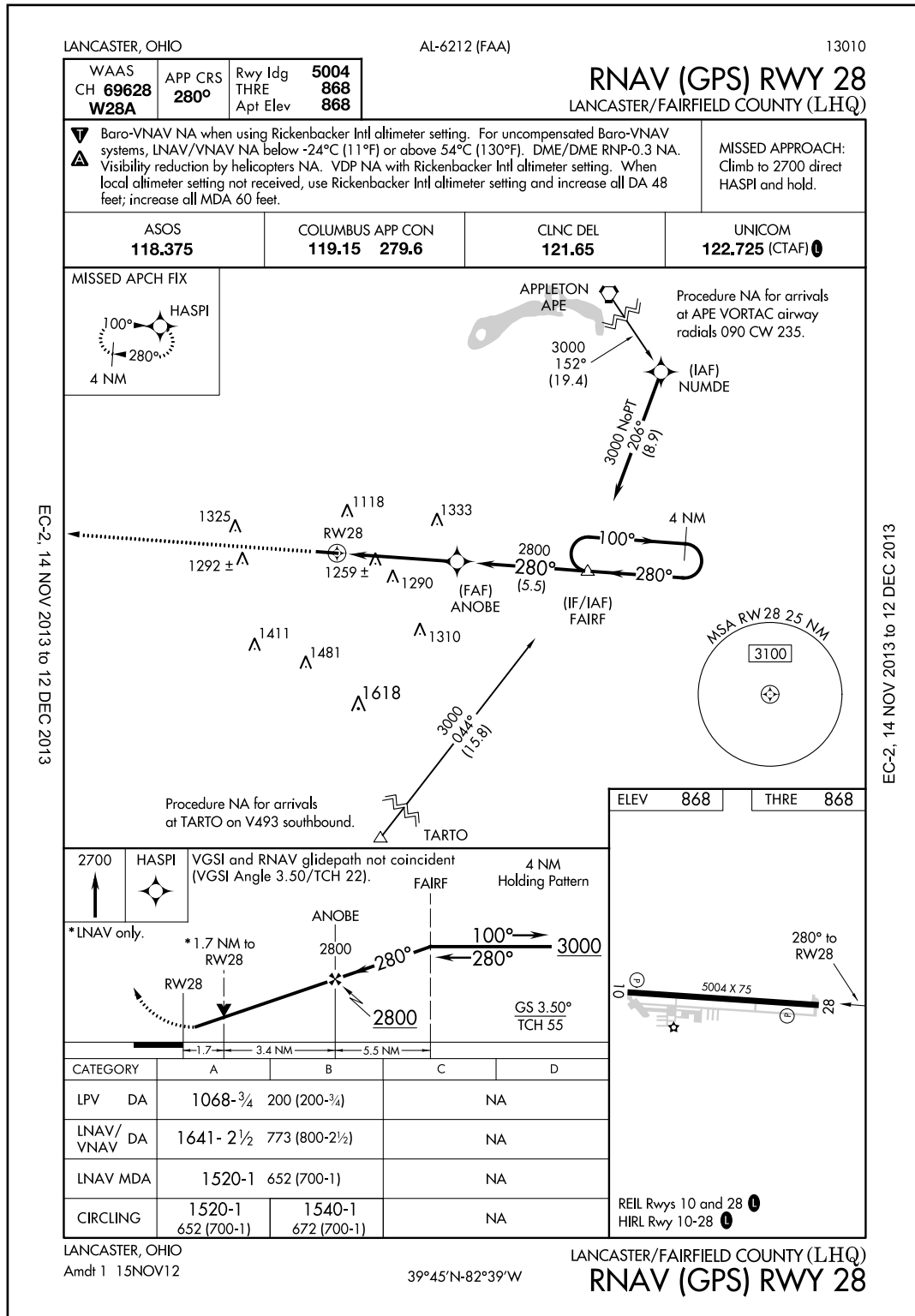
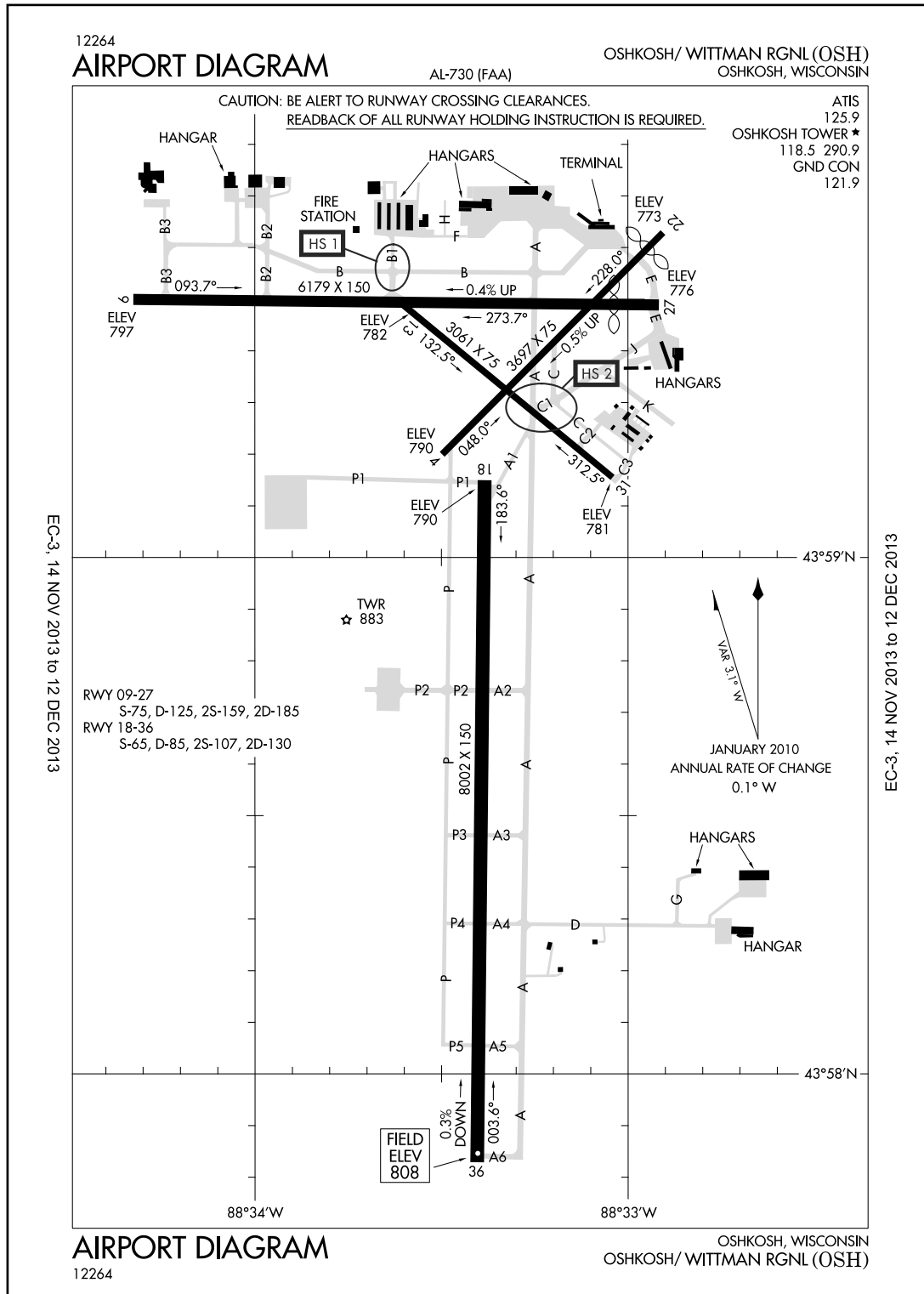


Figure 238.



AIRCRAFT EQUIPMENT SUFFIXES

SUFFIX	AIRCRAFT EQUIPMENT SUFFIXES
	NO DME
/X	No transponder
/T	Transponder with no Mode C
/U	Transponder with Mode C
	DME
/D	No transponder
/B	Transponder with no Mode C
/A	Transponder with Mode C
	TACAN ONLY
/M	No transponder
/N	Transponder with no Mode C
/P	Transponder with Mode C
	AREA NAVIGATION (RNAV)
/Y	LORAN, VOR/DME, or INS with no transponder
/C	LORAN, VOR/DME, or INS, transponder with no Mode C
/I	LORAN, VOR/DME, or INS, transponder with Mode C
	ADVANCED RNAV WITH TRANSPONDER AND MODE C (If an aircraft is unable to operate with a transponder and/or Mode C, it will revert to the appropriate code listed above under Area Navigation.)
/E	Flight Management System (FMS) with en route, terminal, and approach capability. Equipment requirements are: (a) Dual FMS which meets the specifications of AC 25-15, Approval of Flight Management Systems in Transport Category Airplanes; AC 20-129, Airworthiness Approval of Vertical Navigation (VNAV) Systems for use in the U.S. NAS and Alaska; AC 20-130A, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors; or equivalent criteria as approved by Flight Standards. (b) A flight director and autopilot control system capable of following the lateral and vertical FMS flight path. (c) At least dual inertial reference units (IRU's). (d) A database containing the waypoints and speed/altitude constraints for the route and/or procedure to be flown that is automatically loaded into the FMS flight plan. (e) An electronic map. (U.S. and U.S. territories only unless otherwise authorized.)
/F	A single FMS with en route, terminal, and approach capability that meets the equipment requirements of /E, (a) through (d), above. (U.S. and U.S. territories only unless otherwise authorized.)
/G	Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) equipped aircraft with en route and terminal capability
/R	Required Navigational Performance (Denotes capability to operate in RNP designated airspace and routes)
/W	Reduced Vertical Separation Minima (RVSM)

Legend 26. – Aircraft Equipment Suffixes.

APPENDIX B:

USE OF A FLIGHT SIMULATION TRAINING DEVICE OR AN AVIATION TRAINING DEVICE

A flight simulation training device or aviation training device can be an extremely important teaching tool in your instrument training. It can be used to teach the instrument scan, visualization of position, holding, and the approach procedures far more efficiently and cost-effectively than an airplane. These devices can be stopped in mid-flight to allow discussion of problems and can be reset so that difficult portions of a procedure can be practiced repeatedly. Training received in a flight simulation training device or an aviation training device must be logged with an authorized instructor.

Definitions

1. **Flight simulation training devices (FSTD)** are full flight simulators (FFS) or flight training devices (FTD).
 - a. **Full flight simulator (FFS)** means a device that
 - 1) Is a full-size cockpit replica of a specific type of aircraft, or make, model, and series of aircraft
 - 2) Includes the hardware and software necessary to represent the aircraft in ground and flight operations
 - 3) Uses a force cueing system that provides cues at least equivalent to those cues provided by a 3° freedom-of-motion system
 - 4) Uses a visual system that provides at least a 45° horizontal field of view and a 30° vertical field of view simultaneously for each pilot
 - 5) Has been evaluated, qualified, and approved by the FAA in accordance with 14 CFR 61.4(a)
 - 6) Includes FFS levels A through D
 - b. **Flight training device (FTD)** means a device that
 - 1) Is a full-size replica of the instruments, equipment panels, and controls of an aircraft in an open flight deck area or in an enclosed cockpit, including the hardware and software for the systems installed that are necessary to simulate the aircraft in ground and flight operations
 - 2) Need not have a force (motion) cueing or visual system
 - 3) Has been evaluated, qualified, and approved by the FAA, or has been authorized for specific use under 14 CFR 61.4(a) or (b), as appropriate
 - 4) Includes levels 4 through 6 (for airplane)
2. **Aviation training device (ATD).** An ATD is a training device, other than an FFS or FTD, that has been evaluated, qualified, and approved by the Administrator.
 - a. This includes a replica of aircraft instruments, equipment, panels, and controls in an open flight deck area or an enclosed aircraft cockpit.
 - b. It includes the hardware and software necessary to represent a category and class of aircraft (or set of aircraft) operations in ground and flight conditions having the appropriate range of capabilities and systems installed in the device for the specific **Basic** or **Advanced** qualification level.
 - c. ATDs cannot be used for practical tests, aircraft type specific training, or for an aircraft type rating.

- d. **A basic aviation training device (BATD) is a device that**
 - 1) Meets minimum acceptable criteria of AC 61-136A, Appendix 2, BATD
 - 2) Provides an adequate training platform and design for both procedural and operational performance tasks specific to the ground and flight training requirements for Private Pilot Certificate and instrument rating per 14 CFR Parts 61 and 141
 - 3) Provides an adequate platform for both procedural and operational performance tasks required for instrument experience and pilot time
 - 4) The FAA finds acceptable in a manner described in this AC61-136A
 - e. **An advanced aviation training device (AATD) is a device that**
 - 1) Meets or exceeds the criteria outlined in AC61-136A, Appendix 2, BATD
 - 2) Meets or exceeds the criteria outlined in AC61-136A, Appendix 3, AATD
 - 3) Provides an adequate training platform for both procedural and operational performance tasks specific to the ground and flight training requirements for Private Pilot Certificate, instrument rating, Commercial Pilot Certificate, Airline Transport Pilot (ATP) Certificate, and Flight Instructor Certificate per Parts 61 and 141
 - 4) Provides an adequate platform and design for both procedural and operational performance tasks required for instrument experience, the instrument proficiency check, and pilot time
 - 5) The FAA finds acceptable in a manner described in AC61-136A
- NOTE: An AATD, however, may be used for some of the required tasks of an instrument proficiency check (IPC).

ATD Approval for Part 61

- 1. To be approved for use for pilot training and experience requirements under Part 61, an ATD should
 - a. Be capable of providing procedural training in all areas of operation for which it is to be used
 - 1) Those tasks should be specified in an acceptable training curriculum or as authorized by the FAA and meet the description and suggested criteria outlined in AC 61-136A, Appendix 4.
 - b. Have the Letter of Authorization (LOA), Qualification and Approval Guide (QAG), and performance information for the aircraft configurations being represented
- 2. For more detailed information about ATDs, reference FAA AC 61-136A, *FAA Approval of Aviation Training Devices and Their Use for Training and Experience*.

ATD Approval for Part 141

- 1. Notwithstanding Part 61 criteria, the local FSDO may approve an ATD as part of an overall Part 141 school curriculum approval and certification process.

Part 141 – Appendix C Instrument Rating Course

- 1. Instrument training in a simulator may be credited as follows:
 - a. FFS: Up to 50% of the required course hours can be logged.
 - b. FTD: Up to 40% of the required course hours can be logged.
 - c. AATD: Up to 40% of the required course hours can be logged.
 - d. BATD: Up to 25% of the required course hours can be logged.
 - e. Combination ATD and FTD: Up to 40% of the required course hours can be logged (notwithstanding BATD 25% limit).

- f. Combination FFS, FTD, and ATD: Up to 50% of the required course hours can be logged (notwithstanding the FTD 40%, AATD 40%, and BATD 25% limits).
 - 1) The device must be approved and authorized by the FAA.
 - 2) The FAA must approve the instrument training and instrument tasks performed in the device.
 - 3) An authorized instructor must provide the instrument time in the device.
 - 4) The ATD must be used in conjunction with an FAA-approved integrated ground and flight instrument training syllabus.

Part 61 – Instrument Rating Course

- 1. BATD: maximum of 10 hours
- 2. AATD: maximum of 20 hours
- 3. Combination FFS, FTD, ATD: maximum of 20 hours
 - a. The device must be approved and authorized by the FAA.
 - b. The FAA must approve the instrument training and instrument tasks performed in the device.
 - c. An authorized instructor must provide the instrument time in the device.

GLEIM® *FAA Test Prep Online*

Study for and PASS your FAA knowledge test in a unique, easy-to-use program.

- Gain confidence by emulating tests as presented by both national testing centers.
- Customizable exams help you address and overcome weak areas.

Available for the following knowledge tests:

Sport Pilot

Private Pilot

Instrument Rating

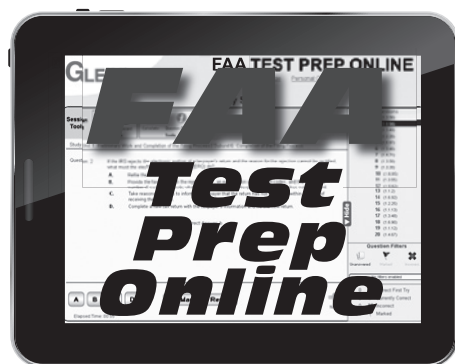
Commercial Pilot

Flight/Ground Instructor
(includes Fundamentals of Instructing)

Flight Engineer

ATP

Remote Pilot



Pilot Handbook

- ✓ Comprehensive reference text to explain all aspects of flying
- ✓ Sections on flight reviews and instrument proficiency checks
- ✓ Color images and diagrams



Aviation Weather & Weather Services

- ✓ A simplified explanation of
 - AC 00-6 Aviation Weather
 - AC 00-45 Aviation Weather Services
- ✓ Color graphics of weather depictions



Logbook

- ✓ Practical for all pilot skill levels, student through professional



GleimAviation.com • 800.874.5346

This is to certify that

_____ is enrolled in the

Federal Aviation Administration
approved Instrument Rating Course

conducted by _____

(name of school and certificate number)

Date of Enrollment

Chief Instructor



Gleim Publications, Inc.
P.O. Box 12848
University Station
Gainesville, Florida 32604
(800) 874-5346
(352) 375-0772
(352) 375-6940 FAX
Internet: GleimAviation.com
Email: aviationteam@gleim.com

This is to certify that

**has satisfactorily completed all stages, tests, and
course requirements and has graduated from the
FEDERAL AVIATION ADMINISTRATION
approved Instrument Rating Course**

conducted by _____

(name of school and certificate number)

The graduate has received _____ hours of cross-country training.

Chief Instructor

Date of Graduation



Gleim Publications, Inc.
P.O. Box 12848
University Station
Gainesville, Florida 32604
(800) 874-5346
(352) 375-0772
(352) 375-6940 FAX
Internet: GleimAviation.com
Email: aviationteam@gleim.com

Use the online MedXPress system (see page 2 for more information) to complete your medical application before you arrive at your aviation medical examiner's office. Form 8500-8 below is no longer used by the FAA, but it gives you an idea of what to expect when filling out the online application.

Instructions for Completion of the Application for Airman Medical Certificate, FAA Form 8500-8

Applicant must fill in completely numbers 1 through 20 of the application using a ballpoint pen. Exert sufficient pressure to make legible copies. The following numbered instructions apply to the numbered headings on the application form that follows this page.

NOTICE -- Intentional falsification may result in federal criminal prosecution. Intentional falsification may also result in suspension or revocation of all airman, ground instructor, and medical certificates and ratings held by you, as well as denial of this application for medical certification.

1. APPLICATION FOR -- Check the appropriate box.

2. CLASS OF AIRMAN MEDICAL CERTIFICATE APPLIED FOR -- Check the appropriate box for the class of airman medical certificate for which you are making application.

3. FULL NAME -- If your name has changed for any reason, list current name on the application and list any former name(s) in the EXPLANATIONS box of number 18 on the application.

4. SOCIAL SECURITY NUMBER -- The social security number is optional; however, its use as a unique identifier does eliminate mistakes.

5. ADDRESS -- Give permanent mailing address and country. Include your complete nine digit ZIP code if known. Provide your current area code and telephone number.

6. DATE OF BIRTH -- Specify month (MM), day (DD), and year (YYYY) in numerals; e.g., 01/31/1950. Indicate citizenship; e.g., U.S.A.

7. COLOR OF HAIR -- Specify as brown, black, blond, gray, or red. If bald, so state. Do not abbreviate.

8. COLOR OF EYES -- Specify actual eye color as brown, black, blue, hazel, gray, or green. Do not abbreviate.

9. SEX -- Indicate male or female.

10. TYPE OF AIRMAN CERTIFICATE(S) YOU HOLD -- Check applicable block(s). If "Other" is checked, provide name of certificate.

11. OCCUPATION -- Indicate major employment. "Pilot" will be used only for those gaining their livelihood by flying.

12. EMPLOYER -- Provide your employer's full name. If self-employed, so state.

13. HAS YOUR FAA AIRMAN MEDICAL CERTIFICATE EVER BEEN DENIED, SUSPENDED, OR REVOKED -- If "yes" is checked, give month and year of action in numerals.

14. TOTAL PILOT TIME TO DATE -- Give total number of civilian flight hours. Indicate whether logged or estimated. Abbreviate as Log. or Est.

15. TOTAL PILOT TIME PAST 6 MONTHS -- Give number of civilian flight hours in the 6-month period immediately preceding date of this application. Indicate whether logged or estimated. Abbreviate as Log. or Est.

16. MONTH AND YEAR OF LAST FAA MEDICAL EXAMINATION -- Give month and year in numerals. If none, so state.

17a. DO YOU CURRENTLY USE ANY MEDICATION (Prescription or Nonprescription) -- Check "yes" or "no." If "yes" is checked, give name of medication(s) and indicate if the medication was listed in a previous FAA medical examination. See **NOTE** below.

17b. Indicate whether you use near vision contact lens(es) while flying.

18. MEDICAL HISTORY -- Each item under this heading must be checked either "yes" or "no." You must answer "yes" for every condition you have ever been diagnosed with, had, or presently have and describe the condition and approximate date in the EXPLANATIONS block.

If information has been reported on a previous application for airman medical certificate and there has been no change in your condition, you may note "PREVIOUSLY REPORTED, NO CHANGE" in the EXPLANATIONS box, but you must still check "yes" to the condition. Do not report occasional common illnesses such as colds or sore throats.

"Substance dependence" is defined by any of the following: increased tolerance; withdrawal symptoms; impaired control of use; or continued use despite damage to health or impairment of social, personal, or occupational functioning. "Substance abuse" includes the following: use of an illegal substance; use of a substance or substances in situations in which such use is physically hazardous; or misuse of a substance when such misuse has impaired health or social or occupational functioning. "Substances" include alcohol, PCP, marijuana, cocaine, amphetamines, barbiturates, opiates, and other psychoactive chemicals.

Conviction and/or Administrative Action History -- Letter (v) of this subheading asks if you have ever been: (1) convicted (which may include paying a fine, or forfeiting bond or collateral) of an offense involving driving while intoxicated by, while impaired by, or while under the influence of alcohol or a drug; or (2) convicted or subject to an administrative action by a state or other jurisdiction for an offense for which your license was denied, suspended, cancelled, or revoked or which resulted in attendance at an educational or rehabilitation program. Individual traffic convictions are not required to be reported if they did not involve: alcohol or a drug; suspension, revocation, cancellation, or denial of driving privileges; or attendance at an educational or rehabilitation program. If "yes" is checked, a description of the conviction(s) and/or administrative action(s) must be given in the EXPLANATIONS box. The description must include: (1) the alcohol or drug offense for which you were convicted or the type of administrative action involved (e.g., attendance at an alcohol treatment program in lieu of conviction; license denial, suspension, cancellation, or revocation for refusal to be tested; educational safe driving program for multiple speeding convictions; etc.); (2) the name of the state or other jurisdiction involved; and (3) the date of the conviction and/or administrative action. The FAA may check state motor vehicle driver licensing records to verify your responses. Letter (w) of this subheading asks if you have ever had any other (nontraffic) convictions (e.g., assault, battery, public intoxication, robbery, etc.). If so, name the charge for which you were convicted and the date of conviction in the EXPLANATIONS box. See **NOTE** below.

19. VISITS TO HEALTH PROFESSIONAL WITHIN LAST 3 YEARS -- List all visits in the last 3 years to a physician, physician assistant, nurse practitioner, psychologist, clinical social worker, or substance abuse specialist for treatment, examination, or medical/mental evaluation. List visits for counseling only if related to a personal substance abuse or psychiatric condition. Give date, name, address, and type of health professional consulted and briefly state reason for consultation. Multiple visits to one health professional for the same condition may be aggregated on one line. Routine dental, eye, and FAA periodic medical examinations and consultations with your employer-sponsored employee assistance program (EAP) may be excluded unless the consultations were for your substance abuse or unless the consultations resulted in referral for psychiatric evaluation or treatment. See **NOTE** below.

20. APPLICANT'S DECLARATION -- Two declarations are contained under this heading. The first authorizes the National Driver Register to release adverse driver history information, if any, about the applicant to the FAA. The second certifies the completeness and truthfulness of the applicant's responses on the medical application. The declaration section must be signed and dated by the applicant after the applicant has read it.

NOTE: If more space is required to respond to "yes" answers for numbers 17, 18, or 19, use a plain sheet of paper bearing the information, your signature, and the date signed.

Applicant -- Please Tear Off This Sheet After Completing The Application Form.

Applicant Must Complete ALL 20 Items (Except For Shaded Areas) PLEASE PRINT

Form Approved OMB NO. 2120-0034

Copy of FAA Form 8500-8 (Medical Certificate) Issued.		FF- 1953420	
MEDICAL CERTIFICATE _____ CLASS _____			
This certifies that (<i>Full name and address</i>):			
Date of Birth	Height	Weight	Hair
Eyes	Sex		
has met the medical standards prescribed in Part 67, Federal Aviation Regulations, for this class of Medical Certificate			
Limitations			
Date of Examination		Examiner's Designation No.	
Examiner	Signature		
	Typed Name		
AIRMAN'S SIGNATURE			

1. Application For: ☐ Airman Medical Certificate		2. Class of Medical Certificate Applied For: ☐ 1st ☐ 2nd ☐ 3rd	
3. Last Name _____		First Name _____	
		Middle Name _____	
4. Social Security Number _____ - ____ - ____			
5. Address _____ Telephone Number () - ____			
Number/Street _____			
City _____		State/Country _____ Zip Code _____	
6. Date of Birth _____ MM / DD / YYYY		7. Color of Hair _____	
Citizenship _____		8. Color of Eyes _____	
9. Sex _____			
10. Type of Airmen Certificate(s) You Hold: ☐ None ☐ ATC Specialist ☐ Flight Instructor ☐ Recreational ☐ Airline Transport ☐ Flight Engineer ☐ Private ☐ Other ☐ Commercial ☐ Flight Navigator ☐ Student _____			
11. Occupation _____		12. Employer _____	
13. Has Your FAA Airmen Medical Certificate Ever Been Denied, Suspended, or Revoked? ☐ Yes ☐ No If yes, give date _____ MM / DD / YYYY			
Total Pilot Time (Civilian Only) 14. To Date _____		15. Past 6 months _____ MM / DD / YYYY	
		☐ No Prior Application	
16. Date of Last FAA Medical Application MM / DD / YYYY			
17a. Do You Currently Use Any Medication (Prescription or Nonprescription)? ☐ No ☐ Yes (If yes, below list medication(s) used and check appropriate box) Previously Reported Yes No ☐ ☐ ☐ ☐ (If more space is required, see 17.a. on the instruction sheet).			
17b. Do You Ever Use Near Vision Contact Lens(es) While Flying? ☐ Yes ☐ No			

18. Medical History -- HAVE YOU EVER IN YOUR LIFE BEEN DIAGNOSED WITH, HAD, OR DO YOU PRESENTLY HAVE ANY OF THE FOLLOWING? Answer "yes" or "no" for every condition listed below. In the EXPLANATIONS box below, you may note "PREVIOUSLY REPORTED, NO CHANGE" only if the explanation of the condition was reported on a previous application for an airman medical certificate and there has been no change in your condition. See Instructions Page

Yes	No	Condition	Yes	No	Condition	Yes	No	Condition	Yes	No	Condition
a. ☐	☐	Frequent or severe headaches	g. ☐	☐	Heart or vascular trouble	m. ☐	☐	Mental disorders of any sort: depression, anxiety, etc.	r. ☐	☐	Military medical discharge
b. ☐	☐	Dizziness or fainting spells	h. ☐	☐	High or low blood pressure	n. ☐	☐	Substance dependence or failed a drug test ever, or substance abuse or use of illegal substance in the last 2 years.	s. ☐	☐	Medical rejection by military service
c. ☐	☐	Unconsciousness for any reason	i. ☐	☐	Stomach, liver, or intestinal trouble	t. ☐	☐	Rejection for life or health insurance			
d. ☐	☐	Eye or vision trouble except glasses	j. ☐	☐	Kidney stone or blood in urine	o. ☐	☐	Alcohol dependence or abuse	u. ☐	☐	Admission to hospital
e. ☐	☐	Hay fever or allergy	k. ☐	☐	Diabetes	p. ☐	☐	Suicide attempt	x. ☐	☐	Other illness, disability, or surgery
f. ☐	☐	Asthma or lung disease	l. ☐	☐	Neurological disorders: epilepsy, seizures, stroke, paralysis, etc.	q. ☐	☐	Motion sickness requiring medication			

Conviction and/or Administrative Action History -- See Instructions Page

Yes	No	History of (1) any conviction(s) involving driving while intoxicated by, while impaired by, or while under the influence of alcohol or a drug; or (2) history of any conviction(s) or administrative action(s) involving an offense(s) which resulted in the denial, suspension, cancellation, or revocation of driving privileges or which resulted in attendance at an educational or a rehabilitation program.	Yes	No	History of nontraffic conviction(s) (misdemeanors or felonies).
-----	----	---	-----	----	---

Explanations: See Instructions Page

	FOR FAA USE Review Action Codes
--	------------------------------------

19. Visits to Health Professional Within Last 3 Years. ☐ Yes (explain below) ☐ No **See Instructions Page**

Date	Name, Address, and Type of Health Professional Consulted	Reason

-- NOTICE --

Whoever in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or who makes any false, fictitious, or fraudulent statements or representations, or entry, may be fined up to \$250,000 or imprisoned not more than 5 years, or both, (18 U.S.C. Secs. 1001; 3571).

20. Applicant's National Driver Register and Certifying Declarations

I hereby authorize the National Driver Register (NDR), through a designated State Department of Motor Vehicles, to furnish to the FAA information pertaining to my driving record. This consent constitutes authorization for a single access to the information contained in the NDR to verify information provided in this application. Upon my request, the FAA shall make the information received from the NDR, if any, available for my review and written comment. Authority: 23 U.S.C. Code 401, Note.

NOTE: All persons using this form must sign it. NDR consent, however, does not apply unless this form is used as an application for Medical Certificate.

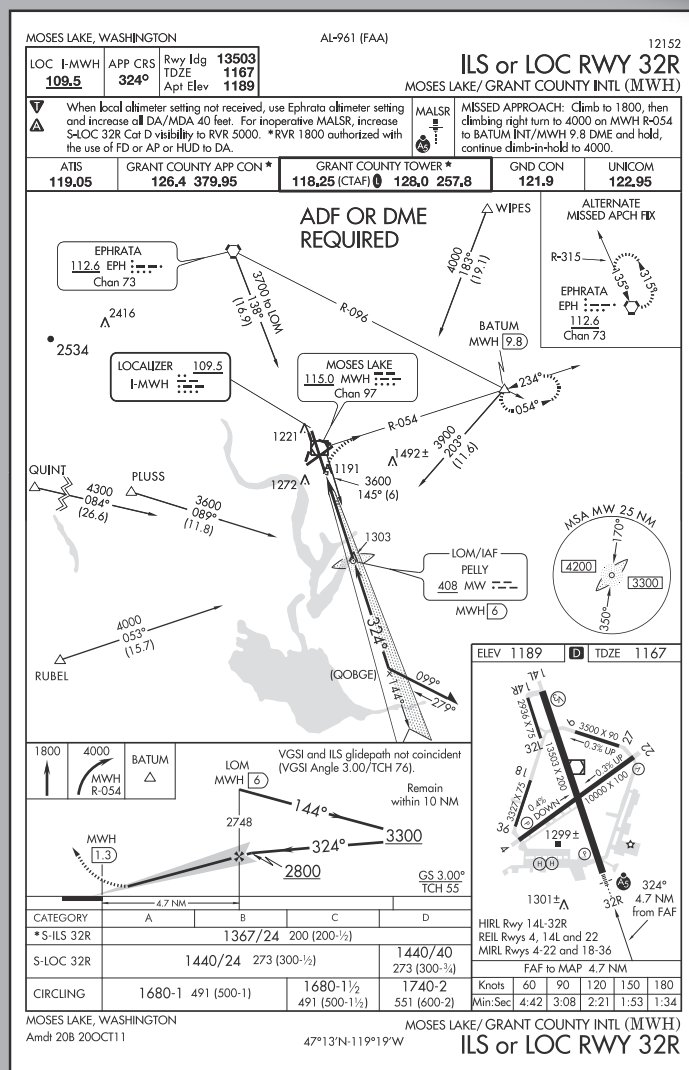
I hereby certify that all statements and answers provided by me on this application form are complete and true to the best of my knowledge, and I agree that they are to be considered part of the basis for issuance of any FAA certificate to me. I have also read and understand the Privacy Act statement that accompanies this form.

Signature of Applicant	Date _____ MM/DD/YYYY
------------------------	-----------------------

NOTE: FAA/Original Copy of the Report of Medical Examination Must Be TYPED.

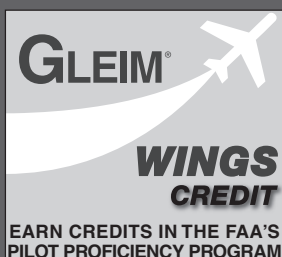
REPORT OF MEDICAL EXAMINATION															
21. Height (inches)	22. Weight (pounds)	23. Statement of Demonstrated Ability (SODA)						24. SODA Serial Number							
		☐ Yes		☐ No		Defect Noted:									
CHECK EACH ITEM IN APPROPRIATE COLUMN				Normal	Abnormal	CHECK EACH ITEM IN APPROPRIATE COLUMN				Normal	Abnormal				
25. Head, face, neck, and scalp						37. Vascular system (Pulse, amplitude and character; arms, legs, others)									
26. Nose						38. Abdomen and viscera (Including hernia)									
27. Sinuses						39. Anus (Not including digital examination)									
28. Mouth and throat						40. Skin									
29. Ears, general (Internal and external canals; Hearing under item 49)						41. G-U system (Not including pelvic examination)									
30. Ear Drums (Perforation)						42. Upper and lower extremities (Strength and range of motion)									
31. Eyes, general (Vision under items 50 to 54)						43. Spine, other musculoskeletal									
32. Ophthalmoscopic						44. Identifying body marks, scars, tattoos (Size and location)									
33. Pupils (Equality and reaction)						45. Lymphatics									
34. Ocular motility (Associated parallel movement, nystagmus)						46. Neurologic (Tendon reflexes, equilibrium, senses, cranial nerves, coordination, etc.)									
35. Lungs and chest (Not including breasts examination)						47. Psychiatric (Appearance, behavior, mood, communication, and memory)									
36. Heart (Precordial activity, rhythm, sounds, and murmurs)						48. General systemic									
NOTES: Describe every abnormality in detail. Enter applicable item number before each comment. Use additional sheets if necessary and attach to this form.															
49. Hearing		Record Audiometric Speech Discrimination Score Below		Right Ear						Left Ear					
Conversational Voice Test at 6 Feet				Audiometer Threshold in Decibels		500	1000	2000	3000	4000	500	1000	2000	3000	4000
☐ Pass ☐ Fail															
50. Distant Vision			51.a. Near Vision			51.b. Intermediate Vision - 32 Inches				52. Color Vision					
Right 20/ Corrected to 20/			Right 20/ Corrected to 20/			Right 20/ Corrected to 20/				☐ Pass ☐ Fail					
Left 20/ Corrected to 20/			Left 20/ Corrected to 20/			Left 20/ Corrected to 20/									
Both 20/ Corrected to 20/			Both 20/ Corrected to 20/			Both 20/ Corrected to 20/									
53. Field of Vision			54. Heterophoria 20' (in prism diopters)			Esophoria		Exophoria		Right Hyperphoria		Left Hyperphoria			
☐ Normal ☐ Abnormal															
55. Blood Pressure			56. Pulse (Resting)		57. Urinalysis (if abnormal, give results)				58. ECG (Date)						
(Sitting, mm of Mercury) Systolic Diastolic					☐ Normal ☐ Abnormal				Albumin Sugar						
									M M D D Y Y Y Y						
59. Other Tests Given															
60. Comments on History and Findings: AME shall comment on all "YES" answers in the Medical History section and for abnormal findings of the examination. (Attach all consultation reports, ECGs, X-rays, etc. to this report before mailing.)												FOR FAA USE			
												Pathology Codes:			
												Coded By:			
												Clerical Reject			
Significant Medical History ☐ YES ☐ NO Abnormal Physical Findings ☐ YES ☐ NO															
61. Applicant's Name				62. Has Been Issued -- ☐ Medical Certificate ☐ No Certificate Issued -- Deferred for Further Evaluation ☐ Has Been Denied -- Letter of Denial Issued (Copy Attached)											
63. Disqualifying Defects (List by item number)															
64. Medical Examiner's Declaration -- I hereby certify that I have personally reviewed the medical history and personally examined the applicant named on this medical examination report. This report with any attachment embodies my findings completely and correctly.															
Date of Examination				Aviation Medical Examiner's Name						Aviation Medical Examiner's Signature					
M M D D Y Y Y Y				Street Address											
				City State Zip Code						AME Serial Number					
										AME Telephone ()					

Instrument Pilot Refresher Course



- A recurrent, online ground training program to build your proficiency when operating in the instrument system.
- Intuitively appealing review of instrument regulations and procedures.
- Totally prepares you for your next IPC.

Take Study Unit 1 for FREE



GLEIM | Aviation
Excellence in Aviation Training

800.874.5346
gleim.com/IPRC

ONLINE GROUND SCHOOL

Pass Your FAA Knowledge Test. **Guaranteed!**



ORDER NOW!

\$99.95 per course

- ✈ Study for the written test and prepare for real-world flying.
- ✈ Increase safety, understanding, and confidence.
- ✈ Save time and money.



GleimAviation.com • 800.874.5346

Need help? Ask Gleim! Our expert CFIs can assist with your flight training and testing questions.

Sport • Private • Instrument • Commercial • Flight/Ground Instructor
Fundamentals of Instructing • ATP • Flight Engineer

ISBN 978-1-61854-062-1



GLEIM[®]
Aviation

Gleim Publications, Inc.

PO Box 12848 || University Station
Gainesville, FL 32604

800.874.5346 || GleimAviation.com