



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

# **Airman Certification Standards Companion Guide for Pilots**

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Flight Standards Service  
Washington, DC 20591

## Foreword

The Federal Aviation Administration (FAA) developed this Airman Certification Standards Companion Guide FAA-G-ACS-2, for use with the Airman Certification Standards (ACS) for pilot certification. This guide, along with the regulatory material in the ACS, may assist an applicant preparing for the knowledge and practical test(s) that lead to pilot certification. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way.

This guide and the ACS are available for download from [www.faa.gov](http://www.faa.gov).

Comments regarding this document may be emailed to [acsptsinquiries@faa.gov](mailto:acsptsinquiries@faa.gov).

## Revision History

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## Why the FAA Created this Guide

The Federal Aviation Administration (FAA) publishes the Airman Certification Standards (ACS) to communicate the aeronautical knowledge, risk management, and flight proficiency standards for various certificates and ratings available to airmen. The ACSs are incorporated by reference into 14 CFR part 61; therefore, the material contained in the ACS is regulatory. This guide, FAA-G-ACS-2, provides additional information to the regulated community to facilitate airman testing. The ACS complies with the safety management system (SMS) framework that the FAA uses to mitigate risks associated with airman certification training and testing. Specifically, the ACS, incorporated by reference (IBR) into the Federal Aviation Regulations, conforms to four functional components of an SMS:

- Safety Policy—Each ACS specifies the Tasks selected by the FAA from the regulatory Areas of Operation. Evaluators formulate a Plan of Action that determines if an applicant can operate safely within the NAS. The ACS represents the FAA's commitment to continually improve safety by including risk management elements in addition to knowledge and skill elements;
- Safety Risk Management that complies with the Administrative Procedures Act (APA) allows the FAA to work with internal and external stakeholders during document formulation. The public at large and stakeholders have an additional chance to provide input during public comment periods;
- Safety Assurance processes ensure a methodical and reasoned incorporation of changes arising from safety recommendations or new developments in aviation; and
- Safety Promotion in the form of engagement and discussion between both external stakeholders (e.g., the aviation training industry) and the FAA policy divisions going forward will determine the content of any ACS that publishes in a Notice of Proposed Rulemaking.

The FAA develops the ACS documents along with associated guidance and updated reference material in collaboration with a diverse group of aviation training experts. The goal is to drive a systematic approach to all components of the airman certification system, including knowledge test question development and conduct of the practical test. The FAA acknowledges and appreciates the many hours that these aviation experts have contributed toward this goal. This level of collaboration, a hallmark of a robust safety culture, strengthens and enhances aviation safety at every level of the airman certification system.

**Note:** *This document does not apply to the Practical Test Standards.*

## The Non-Regulatory Material in this Guide

This guide provides test preparatory information for an applicant seeking a certificate or rating. This guide also provides a list of references and abbreviations/acronyms used in any ACS and a practical test checklist for use by an applicant. The material in this guide is non-regulatory and may contain terms such as should or may:

- Should indicates actions that are recommended, but not regulatory.
- May is used in a permissive sense to state authority or permission to do the act prescribed.

This document is not legally binding and will not be relied upon by the FAA as a basis for affirmative enforcement action or other administrative penalty. Conformity with the guidance is voluntary only and nonconformity will not affect rights and obligations under existing statutes and regulations.

## Section 1: Knowledge Test Eligibility, Description, and Registration

### Eligibility

For detailed airman knowledge test eligibility and applicable prerequisites, applicants should refer to the 14 CFR part 61 rules that apply to a specific certificate or rating.

### Steps for Knowledge Test Registration

#### **Step 1. Obtain an FAA Tracking Number**

The FAA Airman Knowledge Test registration system requires the applicant to have an FAA Tracking Number (FTN).

Applicants may obtain an FTN through the [Integrated Airman Certification and Rating Application \(IACRA\) website](#).

[This video](#) describes creating an IACRA account and obtaining an FTN. The specific instructions begin at the 14-minute mark.

#### **Step 2. Create an Account with PSI**

After obtaining an FTN, applicants should create an account with the FAA's contracted testing vendor, PSI, a professional testing company which operates hundreds of test centers. Visit [PSI's website](#) for information on authorized airman knowledge test centers and how to register, schedule, and pay for an Airman Knowledge Test:

**Note:** *The IACRA and PSI systems share data that verifies the applicant's FTN and name based on the information input into IACRA by the applicant. The PSI system does not allow applicants to make changes to their name. Applicants who need to make a correction to their name should process that correction in the IACRA system. The applicant's name correction will appear in the PSI system once the applicant logs back into the PSI system and refreshes their account.*

#### **Step 3. Select Test and Testing Center**

After obtaining an FTN and creating an account with PSI, applicants may schedule knowledge tests. The PSI system walks the applicant through the process to select a test center in their area and select one or more specific knowledge tests.

#### **Step 4. Select an Available Time Slot**

After selecting the test center and test, the applicant may select a date and time slot.

#### **Step 5. Pay for Test**

After selecting an available time slot, the PSI system prompts the applicant to pay for the test. After completing this step, the applicant receives an automated email confirmation from PSI.

Applicants are required to meet any applicable Airman Knowledge Test eligibility requirements before arriving at a test center to take a specific knowledge test.

### Testing Procedures for Applicants Requesting Special Accommodations

Applicants may request a special accommodation for their airman knowledge test through the PSI test registration and scheduling process. The process allows the applicant to select the specific accommodation(s) needed in accordance with the Americans with Disabilities Act (ADA). The PSI special accommodations team will work with the applicant and the selected testing center to provide appropriate accommodation(s). The PSI special accommodations team may request medical documentation for verification.

### Acceptable Forms of Identification

14 CFR part 61, section 61.35, requires an applicant for a knowledge test to have proper identification at the time of application. Before beginning an Airman Knowledge Test, test center personnel will ask to see the applicant's state or

federal government-issued photo identification. The identification must contain the applicant’s photograph, signature, and date of birth. If the applicant’s permanent mailing address is a PO Box number, the applicant must provide a current residential address.

**Acceptable Forms of Applicant Address Verification**

The table below provides examples of acceptable identification.

All Applicants	U.S. Citizens & Resident Aliens	Non-U.S. Citizens
Identification information must be: <ul style="list-style-type: none"> <li>✓ valid</li> <li>✓ current</li> </ul> Identification must include <b>all</b> of the following information: <ul style="list-style-type: none"> <li>✓ photo</li> <li>✓ date of birth</li> <li>✓ signature</li> <li>✓ physical, residential address</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identification card issued by any <b>U.S.</b> state, territory, or government entity (e.g., driver permit or license, government identification card, or military identification card)</li> <li><b>or</b></li> <li>✓ Passport</li> <li><b>or</b></li> <li>✓ Alien residency card</li> </ul>	<ul style="list-style-type: none"> <li>✓ Passport</li> <li><b>and</b></li> <li>✓ Driver permit or license issued by a U.S. state or territory</li> <li><b>or</b></li> <li>✓ Identification card issued by any government entity</li> </ul>

**Airman Knowledge Test Description**

The airman knowledge test consists of multiple-choice questions. A single correct response exists for each test question. A correct response to one question does not depend upon, or influence, the correct response to another.

**Taking the Knowledge Test**

Before starting the actual test, the test center provides an applicant with the opportunity to practice navigating the test software. This practice or tutorial session may include sample questions to familiarize the applicant with the look and feel of the software (e.g., selecting an answer, marking a question for later review, monitoring time remaining for the test, and other features of the testing software). PSI also provides sample tests for registered users on their [website](#).

### Acceptable and Unacceptable Materials

The applicant may use the following aids, reference materials, and test materials when taking the knowledge test provided the material does not include actual test questions or answers:

Acceptable Materials	Unacceptable Materials	Notes
Supplement book provided by the proctor	Written materials that are handwritten, printed, or electronic	Testing centers may provide calculators and/or deny the use of personal calculators.
All models of aviation-oriented calculators or small electronic calculators that perform only arithmetic functions	Electronic calculators incorporating permanent or continuous type memory circuits without erasure capability	Proctor may prohibit the use of an applicant's calculator if the proctor is unable to determine the calculator's erasure capability
Calculators with simple programmable memories, which allow the addition to, subtraction from, or retrieval of one number from the memory, or simple functions, such as square root and percentages	Magnetic Cards, magnetic tapes, modules, computer chips, or any other device upon which pre-written programs or information related to the test can be stored and retrieved	Printouts of data should be surrendered at the completion of the test if the calculator incorporates this design feature
Scales, straightedges, protractors, plotters, navigation computers, blank log sheets, holding pattern entry aids, and electronic or mechanical calculators that are directly related to the test	Dictionaries	Before, and upon completion of the test, while in the presence of the proctor, actuate the ON/OFF switch or RESET button, and perform any other function that ensures erasure of any data stored in memory circuits
Manufacturer's permanently inscribed instructions on the front and back of such aids (e.g., formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and air traffic control procedures)	Any booklet or manual containing instructions related to the use of test aids	Proctor makes the final determination regarding aids, reference materials, and test materials

### Test Taking Tips

When taking a knowledge test, applicants should:

- Read the test instructions carefully;
- Mark difficult questions for later review in order to use the available time efficiently;
- Examine graphs and notes that pertain to the question;
- Request and mark a printed copy of any graph while computing answers, if needed;
- Understand that since only one answer is complete and correct, the other possible answers are either incomplete or erroneous;
- Answer each question in accordance with the current regulations and guidance publications; and
- Answer all the questions before time allotted for the test expires.
- Review 14 CFR part 61, section 61.37 regarding cheating or other unauthorized conduct.



## Section 2: Airman Knowledge Test Report

Upon completion of the knowledge test, the test center issues a printed Airman Knowledge Test Report (AKTR) to the applicant, which documents the applicant's test score and lists a code for any questions answered incorrectly. The applicant should retain the original AKTR. During the oral portion of a practical test, the evaluator reviews the AKTR, and assesses any noted areas of deficiency.

### Applicant Name Considerations for the Airman Knowledge Test Report and the Practical Test

The FAA compares the applicant's name on the AKTR with the name on the practical test application form when examining certificate and rating applications and before issuing a permanent certificate to the applicant. If an incorrect middle initial, spelling variant, or different middle name is on the AKTR or if there is a first name variation of any kind between the AKTR and the formal application for a certificate or rating, the evaluator for the practical test should attach an explanation and a copy of the applicant's photo identification to the IACRA or paper application. An IACRA application cannot be processed if the applicant's last name or suffix (e.g., Jr., Sr.) on the AKTR does not match the name recorded on the application form. In this case, the applicant should use a paper application, and the evaluator should include an explanation and copy of the applicant's photo identification to avoid a correction notice.

### Retesting After Failure of AKTR

An applicant retesting after the failure of any Airman Knowledge Test may retest with appropriate authorization. The applicant should bring the applicable AKTR indicating failure to the test center, along with an endorsement from an Authorized Instructor who gave the applicant the required additional training in accordance with 14 CFR part 61, section 61.49. The endorsement certifies that the applicant is competent to pass the knowledge test.

### Knowledge Test Codes During Transition from PTS To ACS

When a PTS is the effective standard for a specific certificate or rating, the applicant receives an Airman Knowledge Test Report with pilot (PLT) codes that correspond to any knowledge test question(s) the applicant answered incorrectly. For example: PLT044.

For knowledge tests taken after an ACS becomes the effective standard for a specific certificate or rating, the test center issues an AKTR with ACS codes that correspond to any knowledge test question(s) the applicant answered incorrectly. For example: CA.I.A.K1

During a period of transition after an ACS replaces a PTS, an applicant could possess a valid AKTR with PLT codes. When this occurs, instructors and evaluators can continue to use PLT codes in conjunction with the appropriate ACS for targeting training and retesting of missed knowledge subject areas by looking up the PLT code(s) in the [Learning Statement Reference Guide](#).

After noting the subject area(s) for the PLT codes, instructors and evaluators should check or test the applicant's understanding of that material in the context of the appropriate ACS Area(s) of Operation and Task(s).

**Note:** *Test codes for the Fundamentals of Instructing knowledge test are the same for all instructor certificates and will issue with ACS codes after the first instructor ACS becomes effective.*

### ACS Archived Test Codes

As a result of updates made to an ACS, an AKTR may contain one or more archived ACS codes. These codes are indicated as archived within the ACS. For example:

PA.VIII.E.K1a Archived.

Use of archived codes in the ACS avoids code shifting that could create ambiguity when looking up ACS codes listed on an AKTR. An unexpired AKTR may span ACS revisions and ACS codes may archive after an applicant takes a knowledge test. Therefore, an applicant, instructor, or evaluator may need to interpret one or more archived ACS codes on an AKTR. Individuals can refer to the ACS revision in effect on the date of the knowledge test or to section 8 of this guide for archived ACS codes and the associated element text.

Use of archived codes in the ACS avoids code shifting that could create ambiguity when looking up ACS codes listed on an AKTR. An unexpired AKTR may span ACS revisions and ACS codes may archive after an applicant takes a knowledge

## Section 2: Airman Knowledge Test Report

test. Therefore, an applicant, instructor, or evaluator may need to interpret one or more archived ACS codes on an AKTR. Individuals can refer to the ACS revision in effect on the date of the knowledge test or to Section 8 of this guide for archived ACS codes and the associated element text. For example, the archived ACS code for Private Pilot Airplane element PA.VIII.E.K1a is noted in Section 8 of this guide as: Sensitivity, limitations, and potential errors in unusual attitudes.

### **Obtaining a Duplicate AKTR**

If the applicant's knowledge test was taken on or after January 13, 2020, the applicant can print a duplicate or expired test report (AKTR) by visiting the [PSI website](#).

If the knowledge test was taken on or before January 10, 2020, the applicant should follow 14 CFR, section 61.29 for replacement of a lost or destroyed AKTR.

## Section 3: ACS Risk Management

Risk management involves perception of hazards, the ability to process the probability and severity of outcomes associated with any hazard, and performance of appropriate risk mitigation as needed to preserve the desired margin of safety.

Previous editions of the ACS often used elements for evaluation of risk management as encompassing a failure to do something. Many of these “failure to act” elements mimicked skill elements and limited an evaluator’s opportunity to thoroughly examine an applicant’s understanding of risk management.

For example, see elements R1 and S2 from the Private Pilot — Airplane Airman Certification Standards (FAA-S-ACS-6B with Change 1) in the excerpt below:

<b>Task</b>	<b><i>C. Systems and Equipment Malfunctions</i></b>
<b>References</b>	FAA-H-8083-2, FAA-H-8083-3; POH/AFM
<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with system and equipment malfunctions appropriate to the airplane provided for the practical test and analyzing the situation and take appropriate action for simulated emergencies.
<b>Knowledge</b>	The applicant demonstrates understanding of:
PA.IX.C.K1	Partial or complete power loss related to the specific powerplant, including:
PA.IX.C.K1a	a. Engine roughness or overheat
PA.IX.C.K1b	b. Carburetor or induction icing
PA.IX.C.K1c	c. Loss of oil pressure
PA.IX.C.K1d	d. Fuel starvation
PA.IX.C.K2	System and equipment malfunctions specific to the airplane, including:
PA.IX.C.K2a	a. Electrical malfunction
PA.IX.C.K2b	b. Vacuum/pressure and associated flight instrument malfunctions
PA.IX.C.K2c	c. Pitot/static system malfunction
PA.IX.C.K2d	d. Electronic flight deck display malfunction
PA.IX.C.K2e	e. Landing gear or flap malfunction
PA.IX.C.K2f	f. Inoperative trim
PA.IX.C.K3	Smoke/fire/engine compartment fire.
PA.IX.C.K4	Any other system specific to the airplane (e.g., supplemental oxygen, deicing).
PA.IX.C.K5	Inadvertent door or window opening.
<b>Risk Management</b>	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.IX.C.R1	Failure to use the proper checklist for a system or equipment malfunction.
PA.IX.C.R2	Distractions, loss of situational awareness, or improper task management.
<b>Skills</b>	The applicant demonstrates the ability to:
PA.IX.C.S1	Describe appropriate action for simulated emergencies specified by the evaluator, from at least three of the elements or sub-elements listed in K1 through K5 above.
PA.IX.C.S2	Complete the appropriate checklist.

The FAA reworded risk elements that describe a Failure to... (or similar phrases) with language permitting an open-ended examination of risk management by the evaluator. See element R2 in the excerpt below (image for illustration purposes only):

<p><b>Task C. Systems and Equipment Malfunctions</b></p> <p><b>References:</b> FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM</p> <p><b>Objective:</b> To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with system and equipment malfunctions appropriate to the airplane provided for the practical test.</p>	
<p><b>Knowledge:</b></p>	<p>The applicant demonstrates understanding of:</p> <ul style="list-style-type: none"> <li>PA.IX.C.K1 Causes of partial or complete power loss related to the specific type of powerplant(s).</li> <li>PA.IX.C.K1a a. [Archived]</li> <li>PA.IX.C.K1b b. [Archived]</li> <li>PA.IX.C.K1c c. [Archived]</li> <li>PA.IX.C.K1d d. [Archived]</li> <li>PA.IX.C.K2 System and equipment malfunctions specific to the aircraft, including:                             <ul style="list-style-type: none"> <li>PA.IX.C.K2a a. Electrical malfunction</li> <li>PA.IX.C.K2b b. Vacuum/pressure and associated flight instrument malfunctions</li> <li>PA.IX.C.K2c c. Pitot-static system malfunction</li> <li>PA.IX.C.K2d d. Electronic flight deck display malfunction</li> <li>PA.IX.C.K2e e. Landing gear or flap malfunction</li> <li>PA.IX.C.K2f f. Inoperative trim</li> </ul> </li> <li>PA.IX.C.K3 Causes and remedies for smoke or fire onboard the aircraft.</li> <li>PA.IX.C.K4 Any other system specific to the aircraft (e.g., supplemental oxygen, deicing).</li> <li>PA.IX.C.K5 Inadvertent door or window opening.</li> </ul>
<p><b>Risk Management:</b></p>	<p>The applicant is able to identify, assess, and mitigate risk associated with:</p> <ul style="list-style-type: none"> <li>PA.IX.C.R1 Checklist usage for a system or equipment malfunction.</li> <li>PA.IX.C.R2 Distractions, task prioritization, loss of situational awareness, or disorientation.</li> <li>PA.IX.C.R3 Undesired aircraft state.</li> <li>PA.IX.C.R4 Startle response.</li> </ul>
<p><b>Skills:</b></p>	<p>The applicant exhibits the skill to:</p> <ul style="list-style-type: none"> <li>PA.IX.C.S1 Determine appropriate action for simulated emergencies specified by the evaluator, from at least three of the elements or sub-elements listed in K1 through K5.</li> <li>PA.IX.C.S2 Complete the appropriate checklist(s).</li> </ul>

## Section 4: Flight Instructor Applicant Considerations

### Flight Instructor ACS Information

Flight Instructor ACS documents include sections that define the acceptable standards for knowledge, risk management, and skills unique to an instructor certificate or rating.

Knowledge elements often begin with “The applicant demonstrates instructional knowledge by describing and explaining...” Instructional knowledge means the instructor applicant can effectively present the what, how, and why involved with the task elements using techniques described in the fundamentals of instructing (FOI) area of operation in an instructor ACS.

The Fundamentals of Instructing (FOI), Area of Operation I, Task F: Elements of Effective Teaching that include Risk Management and Accident Prevention focuses on teaching risk management and on those risks encountered by a flight instructor while providing in-flight instruction.

Instructor applicants deal with additional risk management on several levels. These include teaching risk management in the classroom and mitigation of risk during flight instruction.

Note that the FOI sections in each instructor ACS are identical and use the same element codes. This makes it possible to use the same FOI elements for every instructor ACS.

## Section 5: References

The ACS are based on the following 14 CFR parts, FAA guidance documents, manufacturer's publications, and other documents.

**Note:** Users should reference the current edition of the reference documents listed below. The current edition of all FAA publications can be found at [www.faa.gov](http://www.faa.gov).

Reference	Title
14 CFR part 1	Definitions and Abbreviations
14 CFR part 23	Airworthiness Standards: Normal Category Airplanes
14 CFR part 25	Airworthiness Standards: Transport Category Airplanes
14 CFR part 27	Airworthiness Standards: Normal Category Rotorcraft
14 CFR part 29	Airworthiness Standards: Transport Category Rotorcraft
14 CFR part 39	Airworthiness Directives
14 CFR part 43	Maintenance, Preventive Maintenance, Rebuilding, and Alteration
14 CFR part 61	Certification: Pilots, Flight Instructors, and Ground Instructors
14 CFR part 63	Certification: Flight Crewmembers other than Pilots
14 CFR part 65	Certification: Airmen Other Than Flightcrew Members
14 CFR part 67	Medical Standards and Certification
14 CFR part 68	Requirements for Operating Certain Small Aircraft Without a Medical Certificate
14 CFR part 71	Designation of Class A, B, C, D, and E Airspace Areas; Air Traffic Service Routes; and Reporting Points
14 CFR part 91	General Operating and Flight Rules
14 CFR part 93	Special Air Traffic Rules
14 CFR part 97	Standard Instrument Procedures
14 CFR part 117	Flight and Duty Limitations and Rest Requirements: Flightcrew Members
14 CFR part 119	Certification: Air Carriers and Commercial Operators
14 CFR part 121	Operating Requirements: Domestic, Flag, and Supplemental Operations
14 CFR part 135	Operating Requirements: Commuter and on Demand Operations and Rules Governing Persons on Board Such Aircraft
49 CFR part 830	Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo, and Records
AC 00-30	Clear Air Turbulence Avoidance
AC 00-46	Aviation Safety Reporting Program
AC 20-117	Hazards Following Ground Deicing and Ground Operations in Conditions Conducive to Aircraft Icing
AC 29-2	Certification of Transport Category Rotorcraft
AC 60-22	Aeronautical Decision Making

Reference	Title
AC 60-28	FAA English Language Standard for an FAA Certificate Issued Under 14 CFR Parts 61, 63, 65, and 107
AC 61-65	Certification: Pilots and Flight and Ground Instructors
AC 61-67	Stall and Spin Awareness Training
AC 61-107	Aircraft Operations at Altitudes Above 25,000 Feet Mean Sea Level or Mach Numbers Greater Than .75
AC 61-138	Airline Transport Pilot Certification Training Program
AC 61-140	Autorotation Training
AC 68-1	BasicMed
AC 90-48	Pilots' Role in Collision Avoidance
AC 90-95	Unanticipated Right Yaw in Helicopters
AC 90-100	U.S Terminal and En Route Area Navigation (RNAV) Operations
AC 90-105	Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace
AC 90-107	Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System
AC 90-117	Data Link Communications
AC 91.21-1	Use of Portable Electronic Devices Aboard Aircraft
AC 91-32	Safety in and Around Helicopters
AC 91-55	Reduction of Electrical System Failures Following Aircraft Engine Starting
AC 91-73	Parts 91 and 135 Single Pilot, Flight School Procedures During Taxi Operations
AC 91-74	Pilot Guide: Flight in Icing Conditions
AC 91-78	Use of Class 1 or Class 2 Electronic Flight Bag (EFB)
AC 91-79	Mitigating the Risks of a Runway Overrun Upon Landing
AC 91-92	Pilot's Guide to a Preflight Briefing
AC 120-27	Aircraft Weight and Balance Control
AC 120-51	Crew Resource Management Training
AC 120-57	Surface Movement Guidance and Control System
AC 120-58	Pilot Guide Large Aircraft Ground Deicing
AC 120-60	Ground Deicing and Anti-icing Program
AC 120-66	Aviation Safety Action Program (ASAP)
AC 120-71	Standard Operating Procedures and Pilot Monitoring Duties for Flight Deck Crewmembers
AC 120-74	Parts 91, 121, 125, and 135 Flightcrew Procedures During Taxi Operations
AC 120-76	Authorization for Use of Electronic Flight Bags
AC 120-82	Flight Operational Quality Assurance (FOQA)

Section 5: References

Reference	Title
AC 120-90	Line Operations Safety Audit (LOSA)
AC 120-100	Basics of Aviation Fatigue
AC 120-101	Part 121 Air Carrier Operational Control
AC 120-108	Continuous Descent Final Approach
AC 120-109	Stall Prevention and Recovery Training
AC 120-111	Upset Prevention and Recovery Training
AC 135-17	Pilot Guide - Small Aircraft Ground Deicing
AFM	Airplane Flight Manual
AIM	Aeronautical Information Manual
Applicable Manufacturer's Equipment Supplement(s)	Manufacturer's Equipment Supplement(s)
Appropriate Manufacturer's Safety Notices	Safety Notices
Chart Supplements	Chart Supplements
Digital-Visual Charts (d-VC)	Digital-Visual Charts (d-VC)
FAA-H-8083-1	Aircraft Weight and Balance Handbook
FAA-H-8083-2	Risk Management Handbook
FAA-H-8083-3	Airplane Flying Handbook
FAA-H-8083-9	Aviation Instructor's Handbook
FAA-H-8083-15	Instrument Flying Handbook
FAA-H-8083-16	Instrument Procedures Handbook
FAA-H-8083-21	Helicopter Flying Handbook
FAA-H-8083-23	Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8083-28	Aviation Weather Handbook
FAA Order 8130.2	Airworthiness Certification of Aircraft
FAA-P-8740-66	Flying Light Twins Safely
FSB Report (type specific)	Flight Standardization Board Report (if available)
Helicopter Route Charts	Helicopter Route Charts
IFR Enroute Charts	IFR Enroute Low Altitude and IFR Enroute High Altitude Charts
NOTAMs	Notices to Air Missions
PDC	Profile Descent Charts
POH/AFM	Pilot's Operating Handbook/FAA-Approved Airplane Flight Manual
POH/Flight Manual	Pilot's Operating Handbook/FAA-Approved Flight Manual
POH/RFM	Pilot's Operating Handbook/FAA-Approved Rotorcraft Flight Manual
QRH	Quick Reference Handbook
SAFO 16016	Helicopter Stabilized Hover Checks Before Departure



Section 5: References

Reference	Title
SAFO 17010	Incorrect Airport Surface Approaches and Landings
SAFO 19001	Landing Performance Assessments at Time of Arrival
STARs	Standard Terminal Arrival Routes
TPP	Terminal Procedures Publications
USCG Navigation Rules	USCG Navigation Rules, International-Inland
VFR Navigation Charts	Sectional/Terminal Aeronautical Charts

## Section 6: Abbreviations and Acronyms

**Note:** Users should reference the current edition of the reference documents listed below. The current edition of all FAA publications can be found at [www.faa.gov](http://www.faa.gov).

Acronym	Description
14 CFR	Title 14 of the Code of Federal Regulations
AATD	Advanced Aviation Training Device
AC	Advisory Circular
ACS	Airman Certification Standards
ADM	Aeronautical Decision-Making
ADS-B	Automatic Dependent Surveillance Broadcast
ADS-C	Automatic Dependent Surveillance - Contract
AFCS	Automatic Flight Control System
AFM	Airplane Flight Manual
AGL	Above Ground Level
AIM	Aeronautical Information Manual
AIRMET	Airman's Meteorological Information
AKTR	Airman Knowledge Test Report
AMEL	Airplane Multiengine Land
AMES	Airplane Multiengine Sea
APU	Auxiliary Power Unit
ASEL	Airplane Single-Engine Land
ASES	Airplane Single-Engine Sea
ASI	Aviation Safety Inspector
ATC	Air Traffic Control
ATD	Aviation Training Device
ATP	Airline Transport Pilot
BATD	Basic Aviation Training Device
CDI	Course Deviation Indicator
CDL	Configuration Deviation List
CFIT	Controlled Flight Into Terrain
CFR	Code of Federal Regulations
CG	Center of Gravity
CPDLC	Controller–pilot data link communication
CRM	Crew Resource Management
DA	Decision Altitude
DDA	Derived Decision Altitude

Acronym	Description
DH	Decision Height
DME	Distance Measuring Equipment
DP	Departure Procedures
EFB	Electronic Flight Bag
EFC	Expect Further Clearance
EFIS	Electronic Flight Instrument System
ELT	Emergency Locator Transmitter
ETA	Estimated Time of Arrival
ETL	Effective Translational Lift
FAA	Federal Aviation Administration
FAF	Final Approach Fix
FB	Wind and Temperature Aloft Forecast
FFS	Full Flight Simulator
FMS	Flight Management System
FRAT	Flight Risk Assessment Tool
FSB	Flight Standardization Board
FSO	Flight Standards Office
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
G	Unit of Force Equal to Earth's Gravity
GBAS	Ground Based Augmentation System
GFA	Graphical Forecast for Aviation
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
H/V	Height/Velocity
HF	High Frequency
HIGE	Hover in Ground Effect
HUD	Head Up Display
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
INFO	Information for Operators
INS	Inertial Navigation System
IOS	Instructor Operating Station
KOEL	Kinds of Operations Equipment List
L/DMAX	Lift/Drag Maximum

Acronym	Description
LAHSO	Land and Hold Short Operations
LNAV	Lateral Navigation
LOA	Letter of Authorization
LOC-I	Loss of Control in Flight
LP	Localizer Performance
LTE	Loss of Tail Rotor Effectiveness
LTM	Long Term Memory
MAP	Missed Approach Point
MDA	Minimum Descent Altitude
MEL	Minimum Equipment List
METAR	Aviation Routine Weather Reports (Meteorological Aerodrome Report)
MFD	Multi-Function Display
MMO	Maximum Operating Limit Speed as a Mach Number
NAS	National Airspace System
NOTAM	Notice to Air Missions
Nr	Main Rotor Speed
NSP	National Simulator Program
NTSB	National Transportation Safety Board
ODP	Obstacle Departure Procedure
OEI	One Engine Inoperative
PAVE	Risk Management Checklist for Pilot/Aircraft/enVironment/External Factors
PFD	Primary Flight Display
PIC	Pilot-in-Command
PinS	Copter Point in Space
PIREP	Pilot Report
POA	Plan of Action
POH	Pilot's Operating Handbook
PTS	Practical Test Standards
QPS	Qualification Performance Standard
QRH	Quick Reference Handbook
RAIM	Receiver Autonomous Integrity Monitoring
RCAM	Runway Condition Assessment Matrix
RFM	Rotorcraft Flight Manual
RNAV	Area Navigation
RNP	Required Navigation Performance
RPM	Revolutions Per Minute

Acronym	Description
SAE	Specialty Aircraft Examiner
SAFO	Safety Alert for Operators
SATR	Special Air Traffic Rules
SBAS	Satellite Based Augmentation System
SBT	Scenario Based Training
SFAR	Special Federal Aviation Regulation
SFRA	Special Flight Rules Area
SID	Standard Instrument Departure
SIGMET	Significant Meteorological Information
SMS	Safety Management System
SRM	Single-Pilot Resource Management
SRM	Safety Risk Management
STAR	Standard Terminal Arrival
STM	Short Term Memory
SUA	Special Use Airspace
TAF	Terminal Area Forecast
TAWS	Terrain Awareness and Warning System
TCAS	Traffic Collision Avoidance System
TCDS	Type Certificate Data Sheet
TCE	Training Center Evaluator
TEM	Threat and Error Management
TFR	Temporary Flight Restrictions
TPP	Terminal Procedures Publication
TUC	Time of Useful Consciousness
UHF	Ultra High Frequency
UIMC	Unintended Instrument Meteorological Conditions
USCG	United States Coast Guard
UTC	Coordinated Universal Time
$V_1$	The maximum speed in the takeoff at which the pilot must take the first action (e.g., apply brakes, reduce thrust, deploy speed brakes) to stop the airplane within the accelerate-stop distance. $V_1$ also means the minimum speed in the takeoff, following a failure of the critical engine at $V_{EF}$ , at which the pilot can continue the takeoff and achieve the required height above the takeoff surface within the takeoff distance.
$V_2$	Takeoff Safety Speed
$V_A$	Maneuvering speed
VDP	Visual Descent Point
VFR	Visual Flight Rules

Acronym	Description
$V_{MC}$	Minimum control speed with the critical engine inoperative
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VMCG	Minimum control speed on the ground with the critical engine inoperative
$V_{MO}$	Maximum Operating Limit Speed
$V_{NE}$	Never exceed speed
VCOA	Visual Climb Over Airport
VOR	Very High Frequency Omnidirectional Range
VR	Rotation speed
$V_{REF}$	Reference Landing Speed
VRS	Vortex Ring State
$V_S$	Stall Speed
$V_{SO}$	Stalling Speed or the Minimum Steady Flight Speed in the Landing Configuration
$V_{SSE}$	Safe, intentional one-engine-inoperative speed. Originally known as safe single-engine speed
VTOL	Vertical Takeoff and Landing
$V_X$	Best angle of climb airspeed
$V_{XSE}$	Best angle of climb speed with one engine inoperative
$V_Y$	Best rate of climb speed
$V_{YSE}$	Best rate of climb speed with one engine inoperative.
WAAS	Wide Area Augmentation System

## Section 7: Practical Test Checklist (Applicant)

Evaluator's Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date/Time: \_\_\_\_\_

### Acceptable Aircraft

- Aircraft Documents:
  - Airworthiness Certificate
  - Registration Certificate
  - Operating Limitations
- Aircraft Maintenance Records:
  - Logbook Record of Airworthiness Inspections and Airworthiness Directives (AD) Compliance
- Pilot's Operating Handbook and FAA-Approved Aircraft Flight Manual

### Personal Equipment

- View-Limiting Device
- Current Aeronautical Charts (printed or electronic)
- Computer and Plotter
- Flight Plan Form and Flight Logs (printed or electronic)
- Chart Supplements, Airport Diagrams, and Appropriate Publications (printed or electronic)
- Current AIM (printed or electronic)

### Personal Records

- Government-Issued Identification – Photo/Signature Identification (ID)
- Pilot Certificate
- Current Medical Certificate or BasicMed Qualification (when applicable)
- Completed FAA Form 8710-1, Airman Certificate and/or Rating Application, or completed IACRA form, FAA Form 8710-11, Airman Certificate and/or Rating Application – Sport Pilot, or FAA Form 8400.3, Airman Certificate and/or Rating Application with Instructor's Signature, if applicable
- Airman Knowledge Test Report
- Airman's Logbook with Appropriate Instructor Endorsements
- FAA Form 8060-5, Notice of Disapproval (if applicable)
- Letter of Discontinuance (if applicable)
- Approved School Graduation Certificate (if applicable)

## Section 8: Knowledge Test Reports and Archived ACS Codes

### Private Pilot for Airplane Category ACS Archived Codes

<i>PA.III.A.R3</i>	Confirmation or expectation bias.
<i>PA.IV.A.S10</i>	Retract the water rudders, as appropriate, establish and maintain the most efficient planing/liftoff attitude, and correct for porpoising and skipping (ASES, AMES).
<i>PA.IV.I.S5</i>	Retract the water rudders as appropriate; advance the throttle smoothly to takeoff power.
<i>PA.IV.K.S7</i>	Retract the water rudders as appropriate; advance the throttle smoothly to takeoff power.
<i>PA.VIII.E.K1a</i>	Sensitivity, limitations, and potential errors in unusual attitudes
<i>PA.VIII.E.K1b</i>	Correlation (pitch instruments/bank instruments)
<i>PA.VIII.E.K1c</i>	Function and operation
<i>PA.VIII.E.K1d</i>	Proper instrument cross-check techniques
<i>PA.VIII.E.R2</i>	Failure to seek assistance or declare an emergency in a deteriorating situation.
<i>PA.VIII.E.R6</i>	Failure to unload the wings in recovering from high G situations.
<i>PA.VIII.F.S3</i>	Maintain altitude $\pm 200$ feet, heading $\pm 20^\circ$ , and airspeed $\pm 10$ knots.
<i>PA.IX.C.K1a</i>	Maintain altitude $\pm 200$ feet, heading $\pm 20^\circ$ , and airspeed $\pm 10$ knots
<i>PA.IX.C.K1b</i>	Engine roughness or overheat
<i>PA.IX.C.K1c</i>	Loss of oil pressure
<i>PA.IX.C.K1d</i>	Fuel starvation
<i>PA.XII.A.R2</i>	Confirmation or expectation bias as related to taxi instructions.
<i>PA.XII.A.S1</i>	Demonstrate runway incursion avoidance procedures.
<i>PA.XII.B.R2</i>	Confirmation or expectation bias as related to taxi instructions.



**Commercial Pilot for Airplane Category ACS Archived Codes**

- CA.I.F.K2f Weight and balance
- CA.IV.A.S10 Retract the water rudders, as appropriate, establish and maintain the most efficient planing/liftoff attitude, and correct for porpoising and skipping (ASES, AMES).
- CA.IV.I.S5 Retract the water rudders as appropriate; advance the throttle smoothly to takeoff power.
- CA.IV.K.S7 Retract the water rudders as appropriate; advance the throttle smoothly to takeoff power.
- CA.IV.B.S5 Recognize signal loss or interference and take appropriate action, if applicable.
- CA.IX.C.K1a Engine roughness or overheat
- CA.IX.C.K1b Carburetor or induction icing
- CA.IX.C.K1c Loss of oil pressure
- CA.IX.C.K1d Fuel starvation
- CA.XI.A.R2 Confirmation or expectation bias as related to taxi instructions.
- CA.XI.A.S1 Utilize runway incursion avoidance procedures.
- CA.XI.B.R2 Confirmation or expectation bias as related to taxi instructions.

**Instrument Rating – Airplane ACS Archived Codes**

- IR.IV.B.R2 Failure to recognize an unusual flight attitude and follow the proper recovery procedure.
- IR.VII.C.R2 Collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.

**Airline Transport Pilot and Type Rating ACS Archived Codes**

- AA.IV.B.R2 Failure to recognize an unusual flight attitude and follow the proper recovery procedure.
- AA.V.A.S2 When accomplished in an FSTD, the entry should be consistent with the expected operational environment for a stall on takeoff or while on approach in a partial flap configuration with no minimum entry altitude defined.
- AA.V.B.S2 When accomplished in an FSTD, the entry should be consistent with the expected operational environment for a stall in cruise flight with no minimum entry altitude defined.
- AA.V.C.S2 When accomplished in an FSTD, the entry should be consistent with the expected operational environment for a stall when fully configured for landing with no minimum entry altitude defined.
- AA.VI.F.R3 Planning for.
- AA.VI.F.R3a a. Missed Approach

*Section 8: Knowledge Test Reports and Archived ACS Codes*

*AA.VI.F.R3b*        b. Land and hold short operations (LAHSO)

*AA.VI.H.R3*        Planning for.

*AA.VI.H.R3a*        a. Missed Approach

*AA.VI.H.R3b*        b. Land and hold short operations (LAHSO)

*AA.VIII.A.R2*       Confirmation or expectation bias as related to taxi instructions.

*AA.VIII.B.R2*       Confirmation or expectation bias as related to taxi instructions.