



**FAA-G-ACS-1  
(with Change 1)**

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

**Companion Guide  
to the  
Aviation Mechanic General, Airframe, and  
Powerplant Airman Certification Standards**

**Flight Standards Service  
Washington, DC 20591**

## Foreword

The Federal Aviation Administration (FAA) developed FAA-G-ACS-1, Companion Guide to the Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards, to be used as a companion guide to FAA-S-ACS-1, Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards (ACS).

This guide contains information that may be used in concert with the regulatory material in the ACS and assists the applicant and examiner in preparing for the knowledge, oral, and practical tests.

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

Please send comments regarding this document using the following link to the [Airman Testing Branch Mailbox](mailto:afs630comments@faa.gov) (afs630comments@faa.gov).

## Revision History

Document #	Description	Development Date
FAA-G-ACS-1	Companion Guide for Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards	May 2022
FAA-G-ACS-1	Companion Guide for Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards (with Change 1)	January 2023

## Record of Changes

### Change 1 (January 2023)

Revised the last paragraph in the “Retesting the Oral and Practical” section of Chapter 7: Oral and Practical Test Results.

## Table of Contents

Introduction .....	6
Chapter 1: Overview of Mechanic Testing Process .....	7
Chapter 2: How to Use the ACS .....	10
Chapter 3: Written Test Description .....	11
Chapter 4: How to Register for an FAA Airman Knowledge Test .....	14
Chapter 5: Airman Knowledge Test Report (AKTR).....	18
Chapter 6: The Oral and Practical (O&P) Test Process.....	19
Chapter 7: Oral and Practical Test Results .....	23
Chapter 8: References.....	24
Chapter 9: Abbreviations and Acronyms .....	25

## Introduction

### Why We Created This Guide

The FAA created this guide to provide information on non-regulatory material regarding the FAA-S-ACS-1, Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards that is relevant and useful to the community. The regulatory material is found in the ACS.

The FAA notes that the Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards will be used as the testing standard for the written, oral, and practical tests after July 31, 2023. Therefore, this guidance will be applicable after July 31, 2023. Until July 31, 2023, the FAA will use the Aviation Mechanic General, Airframe, and Powerplant Practical Test Standards as the testing standard.

### How This Guide Works with the ACS

The material in this guide is for informational purposes. The guide is designed to provide the applicant for a certificate or rating with test preparatory information. The guide also provides a list of references and abbreviations/acronyms that may be used throughout the ACS for study and research.

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 guidance is not legally binding in its own right and will not be relied upon by the FAA as a separate 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.

### Airman Certification Standards Concept

The goal of the airman certification process is to ensure the applicant possesses knowledge, risk management, and basic skills consistent with the privileges of the certificate or rating being exercised. The ACS concept forms a more comprehensive standard for what an applicant knows, considers, and does for the safe conduct and successful completion of each subject to be tested on the knowledge (written) test and oral and practical tests. The FAA notes that while 14 CFR parts 65 and 147 use the term “written test,” the FAA has historically used the terms “knowledge test” and “written test” in the context of airman certification testing interchangeably and continues to do so in this companion guide. Additionally, the terms “Mechanic” and “Aviation Maintenance Technician (AMT)” are used interchangeably in this document.

In fulfilling its responsibilities for the airman certification process, the FAA plans, develops, and maintains materials related to airman certification training and testing. The FAA written test measures the minimum standard of aeronautical knowledge required by Title 14 of the Code of Federal Regulations (14 CFR) part 65. Other materials, such as handbooks in the FAA-H-8083 series, provide information to applicants on aeronautical knowledge, risk management, and associated skills, including the knowledge and skill required to identify hazards and mitigate risks.

Safe operations on today’s aircraft require integration of aeronautical knowledge, risk management, and skill standards. To accomplish these goals, the FAA draws upon the expertise of organizations and individuals across the aviation and training community to develop the ACS.

The ACS defines the elements of knowledge and skill for each airman certificate or rating defined in 14 CFR part 65, subpart D.

Through the oral and practical portion of the test, the FAA evaluators assess the applicant's application of the knowledge, risk management, and skill in the subject area. For some topics, the evaluator asks the applicant to describe or explain. For other items, the evaluator assesses the applicant's understanding

by providing a scenario that requires the applicant to appropriately apply knowledge and demonstrate skills as required for the circumstances of the given scenario.

**Note:** As used in the ACS, an evaluator is any person authorized to conduct airman testing (e.g., an FAA Aviation Safety Inspector [ASI] or Designated Mechanic Examiner [DME]).

These procedures ensure that airman applicants meet a satisfactory level of competency and workmanship required for certification. Each applicant is required to demonstrate a minimum satisfactory competency level, regardless of their previous education or background, in order to obtain a certificate. All applicants for an FAA Aviation Mechanic Certificate must qualify by meeting the prescribed requirements as stated in 14 CFR part 65, section 65.77 (Experience requirements). They must additionally pass required written tests and the oral and practical tests for the certificate or rating(s) sought, in accordance with 14 CFR part 65, sections 65.75 (Knowledge requirements) and 65.79 (Skill requirements). The Aviation Mechanic General, Airframe, and Powerplant ACS is incorporated by reference into 14 CFR part 65 as the testing standard for each test after July 31, 2023. Additionally, the Aviation Mechanic General, Airframe, and Powerplant ACS is incorporated by reference into 14 CFR part 147, Aviation Maintenance Technician Schools (AMTS), as the training standard.

## **Chapter 1: Overview of Mechanic Testing Process**

### **Overview**

The Administrator of the FAA has the authority to issue airman certificates to individuals when the Administrator finds that the individual is qualified for and able to perform the duties related to the certificate pursuant to 49 USC 44703. 14 CFR part 65, subpart D – Mechanics, contains the qualification regulations to obtain a mechanic certificate. All applicants for an FAA Mechanic Certificate must qualify by meeting the experience requirements of 14 CFR part 65, section 65.77. After meeting the applicable experience requirements, applicants must pass a written test, appropriate to the rating sought, which covers the subject areas contained in ACS, pursuant to 14 CFR part 65, section 65.75. After passing each section of the written test, each applicant must pass an oral test and a practical test, as appropriate to the rating sought, by demonstrating the assigned objectives for the subject areas contained in the ACS, pursuant to 14 CFR part 65, section 65.79. Through the oral and practical portion of the test, the FAA assesses the applicant's application of the knowledge, risk management, and skill in the subject area.

These procedures ensure that airman applicants meet a satisfactory level of competency and workmanship required for certification. Each applicant is required to demonstrate a minimum satisfactory competency level, designated in the applicable section of the ACS, regardless of their previous education or background.

Evaluators must adhere to the applicable regulations and will follow applicable guidance when evaluating an applicant's test performance for an FAA Mechanic Certificate. This includes:

- 14 CFR part 65;
- FAA Order 8000.95 Designee Management Policy (applicable sections as revised);
- FAA Order 8900.2, General Aviation Airman Designee Handbook applicable sections (as revised);
- FAA Order 8900.1, Flight Standards Information Management System (FSIMS) (as revised); and
- FAA-S-ACS-1, Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards.

### **Mechanic Certificate Eligibility Requirements**

To be eligible to be issued a mechanic certificate and rating(s), pursuant to 14 CFR part 65, section 65.71, an applicant must:

- Be at least 18 years of age;

- Be able to read, write, speak, and understand the English language (or in the case of an applicant who does not meet this requirement and who is employed outside of the U.S. by a U.S. air carrier, have the certificate endorsed “valid only outside the United States”);
- Meet the applicable experience requirements of 14 CFR part 65, section 65.77 (i.e., the applicant must present to the FAA either an authenticated document from a certificated aviation maintenance technician school in accordance with 14 CFR part 147, section 147.21, or documentary evidence, satisfactory to the Administrator, of the prescribed amount of practical experience);
- Pass a written test, appropriate to the rating sought, in accordance with 14 CFR part 65, section 65.75;
- Pass an oral test and a practical test, as appropriate to the rating sought, in accordance with 14 CFR part 65, section 65.79; and
- Comply with the applicable sections of 14 CFR part 65, subpart D.

Pursuant to 14 CFR part 65, section 65.75(b), the applicant must pass the applicable written tests before applying for the oral and practical tests, unless the applicant is a student of a 14 CFR part 147 Aviation Maintenance Technician School (AMTS) and has been approved by the FAA to test under 14 CFR part 65, section 65.80.

In accordance with 14 CFR part 65, section 65.71(a)(3), the applicant must have passed all of the prescribed tests (i.e., written, oral, and practical) for the rating sought, within a period of 24 months.

Applicants who otherwise cannot meet certification requirements may submit a petition for exemption from the applicable regulation in accordance with 14 CFR part 11. FAA field offices do not issue exemptions. A grant of exemption is not guaranteed.

### **Testing under 14 CFR part 65, section 65.80**

14 CFR part 65, section 65.80 permits an applicant who is a student of an AMTS to take the oral and practical tests prior to the written tests if an AMTS shows to an FAA inspector that the applicant has made satisfactory progress at the school and is prepared to take the oral and practical tests.

### **Authorization for AMTS Students to Take General Written Test Early (14 CFR part 65, section 65.75(c))**

Pursuant to 14 CFR part 65, section 65.75(c), applicants who are students of an AMTS may take the mechanic general written test prior to meeting the applicable experience requirements of 14 CFR part 65, section 65.77 provided the applicant presents an authenticated document from an AMTS that demonstrates satisfactory completion of the general portion of the school’s curriculum and specifies the completion date.

**Note:** While an AMTS is required to provide an authenticated document to each graduating student, which can be utilized to meet the experience requirements of 14 CFR part 65, section 65.77, an AMTS is not required to provide authenticated documentation that demonstrates satisfactory completion of the general portion of the school’s curriculum. The FAA notes that if the AMTS does not issue such a document, then the student will not be eligible to take the general written test early.

### **Aviation English Language Standard**

In accordance with the requirements of 14 CFR part 65, section 65.71, and the FAA Aviation English Language Proficiency Standard, the applicant must demonstrate the ability to read, write, speak, and understand the English language throughout the application and testing process. English language proficiency is required. Normal restatement of questions as would be done for a native English speaker is permitted and does not constitute grounds for disqualification. Additional information may be found in Advisory Circular 60-28, FAA English Language Standard for an FAA Certificate Issued Under 14 CFR Part 61, 63, 65, and 107, as revised.

### **Applicant Misconduct During Written Testing**



To avoid test compromise, airman knowledge testing centers follow strict security procedures established by the FAA. The FAA has directed testing centers to terminate a test anytime a proctor suspects a cheating incident has occurred.

No person who commits a prohibited act is eligible for any airman certificate or added rating for a period of 1 year after the date of that act, pursuant to 14 CFR part 65, section 65.18. In addition, the commission of that act is a basis for suspending or revoking any airman certificate or rating held by that person.

### **Requests for Special Accommodations**

Applicants may request a special accommodation for their written test through the testing center test registration and scheduling process. The process allows the applicant to select the specific accommodation that meets the specific need in accordance with the Americans with Disabilities Act of 1990 (ADA). Requests for special accommodations are asked to include:

- a copy of medical documentation, including the diagnosing physician's name and contact information, verifying the applicant has condition requiring a special accommodation; and
- the requested method of test administration.

### **Passing Grade**

Pursuant to 14 CFR part 65, section 65.17, the minimum passing grade for each test is 70 percent.

### **Retests**

An applicant for a written, oral, or practical test for a certificate or rating, or for an additional rating under 14 CFR part 65, may apply for retesting in accordance with 14 CFR part 65, section 65.19.

Retests do not require a 30-day waiting period if the applicant presents a signed statement from an airman holding the certificate and rating(s) sought by the applicant certifying that the airman has given the applicant additional instruction in each of the subjects failed and that the airman considers the applicant ready for retesting.

After a 30-day waiting period for retesting, a signed statement of additional training is not required.

## Chapter 2: How to Use the ACS

Evaluators must conduct practical tests in accordance with the appropriate ACS and policies set forth in the current version of FAA Order 8900.1, Flight Standards Information Management System.

The ACS consists of three **Sections: General, Airframe, and Powerplant.**

Each Section includes **Subjects** appropriate to that Section and consistent with the expertise necessary to obtain a mechanic certificate under 14 CFR part 65.

Each Subject begins with an **Objective** stating what the applicant should know, consider, and do, as appropriate. The ACS then lists the aeronautical knowledge, risk management, and skill elements relevant to the specific Subjects, along with the conditions and standards for acceptable performance.

- **Knowledge**—(written test, oral test) elements are indicated by use of the words, "Exhibits knowledge in..."
- **Risk**—(oral test, practical test) elements are indicated by the use of the words, "Determine, Identify, Creates..."
- **Skill**—(practical test) elements are indicated by the use of the words, "Demonstrates the skill to perform..."

The ACS may use **Notes** to emphasize special considerations. The ACS uses the terms "will" and "must" to convey directive (mandatory) information. The term "may" is used in a permissive sense to state authority or permission to do the act prescribed.

Element codes in the ACS divide into four components. For example,

### **AM.I.A.K1:**

**AM** = ACS (Aviation Mechanic)

**I** = Section (General)

**A** = Subject (Basic Electricity)

**K1** = Knowledge Element (Electron theory (conventional flow vs. electron flow.))

Knowledge test questions are linked to the ACS codes, which replace the previous system of Learning Statement Codes (LSC). After this transition, the AKTR will list an ACS code that correlates to a specific Subject element for a given Section and Subject. This will allow remedial instruction and re-testing to be specific and based on explicit learning criteria.

The FAA encourages applicants and instructors to use the ACS when preparing for tests.

## Chapter 3: Written Test Description

### Written Test Description

The written test is an important part of the airman certification process and is developed in accordance with the Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards as incorporated by reference into 14 CFR part 65, section 65.75. Applicants must pass the written tests before taking the oral and practical tests (except when testing under the provision of 14 CFR part 65, section 65.80). Written tests are effective instruments for aviation safety and regulation measurement. However, these tests can only sample the vast amount of knowledge every AMT needs to know.

The written test consists of objective multiple-choice questions. There is a single correct response for each test question. Each test question is independent of the other questions. A correct response to one question does not depend on or influence the correct response to another.

There are three Aviation Maintenance Technician Written Tests:

<b>Written Test Code</b>	<b>Test Table Test Name</b>	<b># of Questions</b>	<b>Age</b>	<b>Hours</b>	<b>Passing Score</b>
AMG	Aviation Mechanic Technician - General	60	N/A	2.0	70
AMA	Aviation Mechanic Technician - Airframe	100	N/A	2.0	70
AMP	Aviation Mechanic Technician - Powerplant	100	N/A	2.0	70

### Authorization To Take a Written Test.

An airman applicant may present one or more of the following item(s) to an Airman Knowledge Testing Center to show authorization to take an AMT (mechanic) test:

- An authenticated document from an AMTS. The document must contain the information required by 14 CFR part 147, section 147.21. The completed curriculum as indicated on the document authorizes the applicant to take the corresponding test (i.e., either general and airframe; general and powerplant; or general, airframe, and powerplant).
- An original FAA Form 8610-2, Airman Certificate and/or Rating Application, attesting to practical experience. Block V must be signed and completed by an FAA Flight Standards inspector.
- Joint Services Aviation Maintenance Technician Certification Council (JSAMTCC) Military Certificate of Eligibility attesting to practical experience. The completed curriculum as indicated on the certificate authorizes the applicant to take the corresponding test (i.e., either general and airframe; general and powerplant; or general, airframe, and powerplant).
- If taking a retest, a previously issued AKTR with failed test results.

**Note:** In all instances, the applicant should retain their original document(s). The testing center will make a copy of the document for their records.

### Authorization for AMTS students to Take General Written Test Early.

Pursuant to 14 CFR part 65, section 65.75(c), an applicant may take the mechanic general written test prior to meeting the applicable experience requirements of 14 CFR part 65, section 65.77. The applicant must present an authenticated document from an AMTS that demonstrates satisfactory completion of the general portion of the school's curriculum and specifies the completion date.

## Written Test Blueprints

The following charts show what percentage of each subject area an applicant can expect to see on their written tests.

**Note:** FAA written tests contain topics that include the maintenance, repair, alteration, inspection of aviation products, and relevant FAA regulations.

### *Aviation Mechanic – General*

### *60-Question Test*

<b>AMG Knowledge Areas</b>	<b>Percentage of Test Questions by Knowledge Area</b>
Fundamentals of Electricity and Electronics	5 - 15%
Aircraft Drawings	5 - 10%
Weight and Balance	5 - 10%
Fluid Lines and Fittings	5 - 10%
Aircraft Materials, Hardware, and Processes	5 - 10%
Ground Operations and Servicing	5 - 15%
Cleaning and Corrosion Control	5 - 10%
Mathematics	5 - 10%
Regulations, Maintenance Forms, Records, and Publications	5 - 10%
Physics for Aviation	5 - 10%
Inspection Concepts and Techniques	5 - 10%
Human Factors	5 - 10%

### *Aviation Mechanic – Airframe*

### *100-Question Test*

<b>AMA Knowledge Areas</b>	<b>Percentage of Test Questions by Knowledge Area</b>
Metallic Structures	5 - 15%
Non-Metallic Structures	5 - 10%
Flight Controls	5 - 10%
Airframe Inspection	5 - 15%
Landing Gear Systems	5 - 10%
Hydraulic and Pneumatic Systems	5 - 10%
Environmental Systems	5 - 10%
Aircraft Instrument Systems	5 - 10%
Communication, Light Signals, and Runway Lighting Systems	5 - 10%
Aircraft Fuel Systems	5 - 10%
Aircraft Electrical Systems	5 - 10%
Ice and Rain Control Systems	5 - 10%
Airframe Fire Protection Systems	5 - 10%

<b>AMA Knowledge Areas</b>	<b>Percentage of Test Questions by Knowledge Area</b>
Rotorcraft Fundamentals	5 - 10%
Water and Waste Systems	5 - 10%

**Aviation Mechanic – Powerplant**

**100-Question Test**

<b>AMP Knowledge Areas</b>	<b>Percentage of Test Questions by Knowledge Area</b>
Reciprocating Engines	5 - 15%
Turbine Engines	5 - 10%
Engine Inspection	5 - 10%
Engine Instrument Systems	5 - 10%
Engine Fire Protection Systems	5 - 10%
Engine Electrical Systems	5 - 15%
Engine Lubrication Systems	5 - 10%
Ignition and Starting Systems	5 - 10%
Engine Fuel and Fuel Metering Systems	5 - 10%
Reciprocating Engine Induction and Cooling Systems	5 - 10%
Turbine Engine Air Systems	5 - 10%
Engine Exhaust and Reverser Systems	5 - 10%
Propellers	5 - 10%

## Chapter 4: How to Register for an FAA Airman Knowledge Test

14 CFR part 65, section 65.11, provides that application for a certificate and/or rating must be made on a form and in a manner prescribed by the Administrator. As part of the application process, the FAA utilizes the testing vendor PSI Services, LLC (PSI). Registering to take an FAA Airman Knowledge Test is an easy process that can be done online or over the phone with PSI in just a few simple steps.

**Note:** The PSI Testing procedures are standardized to apply to all airman knowledge testing (e.g., pilots, mechanics, dispatchers, etc.), which is referred to as the “written test” in applicable aviation mechanic regulations. Therefore, where this guidance document utilizes the phrase “Airman Knowledge Test” in this section, it should be understood that the FAA is referring to the aviation mechanic written test for the purpose of meeting the knowledge requirements of 14 CFR part 65, section 65.75.

### Step 1. Obtain an FAA Tracking Number

All airmen taking an FAA Airman Knowledge Test need to have an FAA tracking number (FTN) prior to taking any test. The FTN is easily obtained and only takes a few minutes.

Integrated Airman Certification and Rating Application (IACRA) is the web-based certification/rating application that guides the user through the FAA's airman application process for certification. To obtain an FTN, applicants will need to follow the instructions provided on the FAA's [IACRA website](https://iacra.faa.gov/IACRA/Default.aspx) located here: <https://iacra.faa.gov/IACRA/Default.aspx>.

The following video provides information about creating an IACRA account and obtaining an FTN. The specific instructions begin at the 14-minute mark in the video. <https://www.youtube.com/watch?v=ETLsH8BruBM&feature=youtu.be>.

### Step 2. Create an Account with PSI

After obtaining the FTN, applicants will need to create an account with PSI. PSI is the professional testing company contracted with the FAA to administer all FAA Airman Knowledge Tests at approved PSI testing centers. PSI operates hundreds of testing centers that offer a full range of airman knowledge tests. For information on authorized airman knowledge testing centers and to register, schedule, and pay for the written test, visit [faa.psiexams.com/faq/login](https://www.faa.psiexams.com/faq/login). Using this link, an applicant can register for the respective airman knowledge test.

### Step 3. Registration: Select Test and Testing Center

After obtaining an FTN and creating an account with PSI, applicants can schedule any knowledge test they are qualified to take. The PSI online system walks the applicant through the process of selecting a testing center in their area and choosing the specific knowledge (written) test they wish to take.

After the test and testing center are selected, the next step in the test scheduling process is for the applicant to select an available time slot to take the test at the selected testing center on the desired test date, then pay for the test.

### Applicant Name Considerations for AKTR and the Mechanic Application Form

The name displayed on an Airman Knowledge Test Report (AKTR) is exactly how the applicant entered it when registering in IACRA and obtaining their FTN. The IACRA application sends basic information to the PSI test registration system verifying the applicant's FTN. The PSI test registration system does not allow an applicant to make changes to their name or correct any misspellings. If an applicant needs to make a correction to their name, it can be done within the IACRA application, then refreshed in the PSI system when the applicant logs in again.

If an incorrect middle initial, spelling variant, or different middle name is on the AKTR, or if the AKTR has a first name variation of any kind, the evaluator for the practical test will attach an explanation to the IACRA or paper application. If the last name on the AKTR has a different spelling or suffix, an IACRA application is not possible. The applicant will complete a paper application and the evaluator will include an explanation to avoid a correction notice.

### At the Test Center

When at the test center on the day of the test, the applicant provides proper identification. An acceptable identification document includes a recent photograph, date of birth, signature, and actual residential address, if different from the mailing address. This information may be presented in more than one form of identification. Acceptable forms of identification include, but are not limited to, driver's licenses, government identification cards, passports, alien residency (green) cards, and military identification cards. Information on acceptable forms of identification is available at [www.faa.gov/training\\_testing/testing](http://www.faa.gov/training_testing/testing).

Applicants also need to present their authorization to test; refer to Chapter 3 of this guide. Information on acceptable forms of authorization is also available at [www.faa.gov/training\\_testing/testing](http://www.faa.gov/training_testing/testing).

The applicant retains all original forms/documents. The proctor will make a photocopy of the certificate presented at the time of applicant processing and returns the original documents to the applicant.

**Note:** Before starting the actual test, the testing center provides an opportunity to practice navigating through the test. 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: [faa.psiexams.com/faa/login](http://faa.psiexams.com/faa/login).

### Acceptable and Unacceptable Materials

Except as authorized by the Administrator under 14 CFR part 65, section 65.18, no person may use any material or aid during the period that the test is being given. The following table describes acceptable and unacceptable aids, reference materials, and test materials if 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

Acceptable Materials	Unacceptable Materials	Notes
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 Tips

- Carefully read the instructions provided with the test.
- Answer each question in accordance with the current regulations and guidance publications.
- Read each question carefully before looking at the answer options. You should clearly understand the problem before trying to solve it.
- After formulating a response, determine which answer option corresponds with your answer. The answer you choose should completely solve the problem.
- Remember that only one answer is complete and correct. The other possible answers are either incomplete or erroneous.
- If a certain question is difficult for you, mark it for review and return to it after you have answered the less difficult questions. This procedure will enable you to use the available time to maximum advantage.
- When solving a calculation problem, be sure to read all the associated notes.
- For questions involving the use of a graph, you may request a printed copy that you can mark in computing your answer. This copy and all other notes and paperwork should be given to the testing center upon completion of the test.

### Cheating or Other Unauthorized Conduct

The FAA prohibits cheating and unauthorized conduct on written tests, in accordance with 14 CFR part 65, section 65.18. To avoid test compromise, computer testing centers follow procedures established with the FAA. The FAA has directed testing centers to terminate a test at any time a proctor suspects that a cheating incident has occurred.

The FAA will investigate any alleged incident of cheating and any airman certificate or rating held may be suspended or revoked if the agency determines that cheating or unauthorized conduct has occurred. No person who commits a prohibited act is eligible for any airman or ground instructor certificate or rating for a period of 1 year after the date of that act (see 14 CFR part 65, section 65.18(b)).



## **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 PSI special accommodations team will work with the applicant and the desired testing center to ensure the accommodation(s) are set up on test day. The applicant should be prepared to provide medical documentation to the PSI special accommodations team for verification.

## Chapter 5: Airman Knowledge Test Report (AKTR)

Upon completion of the written test, the applicant receives a printed AKTR documenting the score. The applicant should retain the original AKTR. Prior to taking the practical test, the applicant presents the original AKTR to the evaluator. The evaluator will assess any noted areas of deficiency during the oral portion of the practical test.

An AKTR expires 24 calendar months after the month the applicant completes the written test pursuant to 14 CFR part 65, section 65.71(a)(3) and (b). If the AKTR expires before completion of the practical test, the applicant must retake, pass, and present the AKTR in order to start or continue the practical test.

Replacement test reports for knowledge tests taken **on or before January 10, 2020**, may be obtained from the FAA. The form to request a replacement test report and additional information may be found at [https://www.faa.gov/licenses\\_certificates/airmen\\_certification/test\\_results\\_replacement](https://www.faa.gov/licenses_certificates/airmen_certification/test_results_replacement).

For tests taken **on or after January 13, 2020**, an AKTR may be reprinted from: <https://faa.psiexams.com/faa/login>, free of charge.

For additional questions, call the Airmen Certification Branch Toll Free: (866) 878-2498.

### FAA Written Test Question Coding

As discussed in chapter 2 of this guide, the system of ACS codes is replacing the system of LSC on an AKTR. Written tests taken as of the effective date of this ACS will list an ACS code for each missed question that correlates to a specific Subject element for a given Section and Subject. This change enables specific and targeted remedial instruction and retesting based on specified learning criteria. Each ACS code is tied to a unique Subject element in the ACS itself. Refer to Chapter 2 for a description of the coding used on the knowledge test report.

### Missed Knowledge Test Questions

As part of the oral portion of the oral and practical tests, applicants will be subject to retesting on the subjects identified by the codes shown on the AKTR.

## Chapter 6: The Oral and Practical (O&P) Test Process

Each applicant for a Mechanic Certificate must successfully pass a written test, an oral test, and a practical test to comply with the general eligibility requirements to obtain a mechanic certificate or rating (see 14 CFR part 65, section 65.53). The O&P tests are typically conducted by an FAA DME; however, in some circumstances, an FAA inspector may conduct an oral and/or practical test.

14 CFR part 65, section 65.11, provides that application for a certificate and/or rating must be made on a form and in a manner prescribed by the Administrator. As part of the application process, the applicant must contact a DME in order to schedule the O&P tests. A list of DMEs is available at [www.faa.gov](http://www.faa.gov) or from a local Flight Standards Office.

Prior to the tests, the evaluator conducts a pre-test interview with the applicant. This pre-test interview provides the evaluator and applicant with information needed for the test, such as the date, time, and location of the test. It also establishes a testing schedule and allows the evaluator to see any codes associated with the written test report and identify any deficient areas that should be included on the oral test. FAA designees may charge a reasonable fee for their services and this fee should be discussed and agreed upon prior to taking the scheduled test.

The applicant should bring the following documentation to the pre-test interview and the O&P test:

- Two identically-prepared FAA Forms 8610-2, Airman Certificate and/or Rating Application, with original signatures;
- Unless early testing under 14 CFR part 65, section 65.80, written test results indicating a passing grade, applicable to the appropriate rating(s) sought; and
- A current government-issued photo identification with a signature from the issuing official, such as a passport, U.S. Military ID, driver's license, etc.

Additionally, the applicant should bring the following eligibility documentation:

<b>If testing on the basis of this eligibility:</b>	<b>The applicant should bring this documentation:</b>
Graduation from an FAA certificated 14 CFR part 147 AMTS;	An authenticated document from an AMTS indicating the applicant's date of graduation and curriculum completed, applicable to the certificate or rating sought.
Civil or Military Practical experience as provided by 14 CFR part 65, section 65.77;	A signature in Block V of FAA Form 8610-2 authorizing the applicant to test.
Practical experience through the JSAMTCC program;	A military certificate of eligibility, applicable to the certificate or rating sought.
Satisfactory progress at an FAA certificate 14 CFR part 147 AMTS pursuant to 14 CFR part 65, section 65.80;	A signature in Section II of FAA Form 8610-2 from a school official and FAA inspector authorizing the applicant to test.

Failure to bring the required documents to the pre-test interview or O&P tests may result in the test being delayed or terminated.

**Note:** An evaluator conducts oral or practical tests with no more than one applicant at a time.

### Missed Questions From Written Test

The oral portion of the O&P tests will consist of questions to retest any deficient knowledge areas from the FAA written tests. Applicants should expect to be questioned on the topics associated with the codes displayed on the AKTR.

## **Applicant Responsibilities**

Every applicant for a mechanic certificate is required to demonstrate their knowledge and skill to a minimum satisfactory level, regardless of their previous education, experience, or background, in accordance with the Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards as incorporated by reference into 14 CFR part 65, section 65.79.

The applicant is responsible for demonstrating acceptable knowledge of the established standards for knowledge, skill, and risk management elements in all subjects appropriate to the certificate and rating sought. The applicant should use the ACS and its references in preparation to take the oral and practical tests.

An applicant is not permitted to know before testing begins which selections from each subject area are to be included in their test. Therefore, an applicant should be well prepared in all knowledge, risk management, and skill elements included in the ACS.

The oral portion of the tests consists of questions specific to the topics associated with the codes on the AKTR. Applicants must demonstrate acceptable knowledge of the subjects missed on the FAA knowledge test. If the applicant scores 100% on the written test, the oral test will consist of a minimum number of randomly selected oral questions. During the oral portion of the test the applicant is NOT allowed to use any reference material to answer the oral questions asked by the examiner.

The practical (i.e., skill) portion of the test is composed of practical projects and practical questioning specific to the projects being tested. The applicant may use reference materials to answer the practical questions asked during the practical projects portion of the test.

**Note:** Additional information for evaluators regarding the conduct of oral and practical tests is contained in the current revision of FAA Order 8900.1 or FAA Order 8900.2, as applicable.

All applicants must demonstrate an approval for return to service standard, where applicable, and demonstrate the ability to locate and apply the required reference materials. In instances where an approval for return to service standard cannot be achieved, the applicant must explain why the return to service standard was not met (e.g., when tolerances are outside of a product's limitations).

The practical portion of the tests are significant because they measure the applicant's ability to logically think and objectively apply their knowledge, while demonstrating the physical skills that enable them to carry out aircraft maintenance in a safe manner. Satisfactory demonstration of each skill tested is evidence the applicant meets the acceptable degree of competency for the certificate or rating sought.

AMT applicants meeting the experience requirements of 14 CFR part 65 should refer to 14 CFR part 65, section 65.77; they may be eligible to take the airman knowledge test for the general, airframe, and powerplant knowledge tests without any additional formal training (i.e., graduation from an ATMS).

## **Evaluator Responsibilities**

The evaluator will ask the applicant to provide the AKTRs prior to generating the test. The evaluator then generates a complete test with a planning sheet to conduct the oral and practical tests. The evaluator includes all the questions and projects obtained from the internet-based Mechanic Test Generator (MTG).

The MTG includes oral questions from the knowledge elements of the ACS to retest those topics missed on the FAA knowledge tests, which will be asked during the oral portion of the test. If the applicant scores 100 percent on the written test, a minimum number of questions are asked during the oral test. The applicant is not permitted to use any reference material during the oral portion of the test.

The MTG also includes questions on the knowledge and risk management elements of the ACS, specific to the selected projects; these will be asked in context during the practical demonstration portion of the test. The applicant is allowed to use reference material for those questions that are given as part of the practical demonstration portion of the test. For this reason, the examiner will ensure that the oral and practical portions of the tests are kept separate. The evaluator administering the oral and practical tests will **not** combine subjects/elements during testing.

The test provided by the MTG contains questions, answers, projects, and performance standards for all elements of the oral and practical tests and is specific to the applicant. Although the tests are not provided to the applicant, it contains certain information in parentheses. This information is additional or clarifying information for the examiner. It is not expected that the applicant will recite all the information in parentheses, however, this information is acceptable as an alternative to what is stated in the answer.

The evaluator will personally observe all practical projects performed by the applicant. The practical portion of the test includes an ongoing evaluation of knowledge and risk management while evaluating the skill. The evaluator who conducts the practical test is responsible for determining that the applicant meets acceptable standards of knowledge and skill in the assigned subject areas. Every applicant is required to demonstrate a minimum satisfactory competency level, regardless of their previous educational background.

The following terms may be reviewed with the applicant prior to or during element assignment:

- **Inspect** means to examine (with or without inspection enhancing tools/equipment).
- **Check** means to verify proper operation.
- **Troubleshoot** means to analyze and identify malfunctions.
- **Service** means to perform functions that assure continued operation.
- **Repair** means to correct a defective condition and repair of an airframe or powerplant system including component replacement and adjustment.
- **Overhaul** means to disassemble, clean, inspect, repair as necessary, and reassemble.

Since an evaluator does not provide applicants with the selections in each subject area to be tested before the test begins, all applicants should be well prepared in all knowledge, risk management, and skill elements included in the ACS.

Further information regarding the requirements for conducting a practical test is contained in the current revision of FAA Order 8900.1 or FAA Order 8900.2, as applicable.

### **Required Material for the Practical Test**

The evaluator shall provide all tools, equipment, and reference materials to support the test. These materials shall include, but are not limited to, 14 CFR, Airworthiness Directives, Advisory Circulars, manufacturer's technical and parts manuals, service information, and any other instructions and/or reference materials that are necessary to meet the performance standard of the assigned project.

All reference material shall be unmarked and in good condition.

The applicant's use of other reference material that the evaluator has NOT provided is prohibited. Use of nonprogrammable calculators is permitted where appropriate. Applicants may only use personal tools and equipment at the discretion of the evaluator.

### **Safety**

Safety is a prime consideration at all times. The evaluator and applicant should be alert for hazards while performing any maintenance or troubleshooting projects. Should any project require an action that would jeopardize safety, the evaluator may ask the applicant to simulate that portion of the project.

The evaluator must ensure the applicant follows all safety recommendations/precautions while performing the assigned projects including, but not limited to, the following:

- Approach to the project; proper information and tools; preparation of the equipment; and observation of safety precautions such as wearing safety glasses, hearing protection, and any other required personal protective equipment (PPE).
- Cleaning, preparing, and protecting parts; skill in handling tools; thoroughness and cleanliness.
- Use of current maintenance and overhaul publications and procedures.
- Application of appropriate rules, risk management, and safety assessments.
- Attitude toward safety, manufacturer's recommendations, and acceptable industry practices. The applicant should be aware that any disregard for safety is not tolerated and will result in a failure.

## **Chapter 7: Oral and Practical Test Results**

### **Passing the Oral and Practical Tests**

When an applicant has passed all required tests in the prescribed period of time and meets all other eligibility requirements, the applicant is eligible to be issued a Temporary Airman Certificate. The subsequent **Certification** paragraph provides additional information on temporary certificates.

When an applicant is under 18 and has passed all of the required tests, the applicant should hold their documentation until they turn 18. When the applicant turns 18, they may take their test results (AKTR and 8610-2(s)) to their local Flight Standards office or a DME to be issued their temporary certificate.

### **Failing the Oral and Practical Tests**

When an applicant has failed the oral test or the practical test, the applicant must be retested if the applicant wishes to receive an airman certificate.

### **Not Tested**

When an applicant is not tested in a subject area, applicable to the rating applied for, the evaluator will annotate appropriately the parts of the test that were not tested. This may occur if the test was unable to be completed for any reason. The applicant must subsequently be tested in the areas annotated as “not tested” if the applicant wishes to receive an airman certificate.

### **Retesting the Oral and Practical**

Chapter 1 provides information related to general retesting requirements pursuant to 14 CFR part 65, section 65.19.

An applicant who applies for retesting of an oral or practical test must provide the evaluator with all previous FAA Form 8610-2s that annotate failure or “not tested” portions of a test. Additionally, the applicant must provide the passed AKTR(s). The annotated Form 8610-2s presented as authorization will be reviewed and returned to the applicant.

If the applicant is retesting the oral portion of the test, they will test the entire Section that was failed (General, Airframe, or Powerplant). Failed and untested projects will carry forward to the retest.

If the applicant is retesting the practical portion of the test, the applicant is retested on the failed projects and with any subject areas not tested on the previous test.

### **Certification**

Typically, upon successful completion of the testing process, the applicant is issued a temporary airman certificate by the DME while the applicant’s application and supplementary documents are reviewed. After such review and confirmation of eligibility, the FAA will process and issue the airman certificate and/or ratings (see 14 CFR part 65, section 65.13). The temporary certificate must be signed by the designee and the applicant in order for it to be valid. The temporary certificate is valid for 120 days from the date of issuance.

If the temporary certificate expires before the airman’s certificate is issued, the airman should contact their local Flight Standards Office (or International Field Office if outside the U.S.). If the mechanic certificate is not received in 120 days, the airman should contact the Airmen Certification Branch via the following:

Toll free: 1-866-878-2498

Website: <http://registry.faa.gov>

Email: [9-AMC-AFS760-Airmen@faa.gov](mailto:9-AMC-AFS760-Airmen@faa.gov)

Certification information line: 405-954-3261

## Chapter 8: References

This ACS is based on the following 14 CFR parts, FAA publications, FAA guidance, and learning aid documents.

References	Titles
14 CFR	Title 14 of the Code of Federal Regulations
14 CFR part 43	Maintenance, Preventive Maintenance, Rebuilding, and Alteration
14 CFR part 45	Identification and Registration Marking
14 CFR part 65	Certification: Airmen Other Than Flight Crewmembers
14 CFR part 91	General Operating and Flight Rules
14 CFR part 147	Aviation Maintenance Technician Schools
AC 20-35	Tiedown Sense
AC 25.1455-1	Waste Water/Potable Water Drain System Certification Testing
AC 25-11	Electronic Flight Displays
AC 43-9	Maintenance Records
AC 43.13-1	Acceptable Methods, Techniques and Practices - Aircraft Inspection & Repair
AC 43.13-2	Acceptable Methods, Techniques and Practices - Aircraft Alterations
AC 43-215	Standardized Procedures for Performing Aircraft Magnetic Compass Calibration
AC 45-2	Identification and Registration Marking
AC 60-11	Test Aids and Materials that May be Used by Airman Knowledge Testing Applicants
AC 60-28	FAA English Language Standard for an FAA Certificate Issued Under 14 CFR Parts 61, 63, 65, and 107
AC 120-39	Hazards of Waste Water Ice Accumulation Separating from Aircraft in Flight
AC 150/5210-20	Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports
FAA-H-8083-1	Aircraft Weight and Balance Handbook
FAA-H-8083-2	Risk Management Handbook
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8083-30	Aviation Maintenance Technician Handbook–General
FAA-H-8083-31	Aviation Maintenance Technician Handbook–Airframe (Volumes 1 and 2)
FAA-H-8083-32	Aviation Maintenance Technician–Powerplant (Volumes 1 and 2)
POH/AFM	Pilot's Operating Handbook/FAA-Approved Airplane Flight Manual

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



## Chapter 9: Abbreviations and Acronyms

### Abbreviations and Acronyms

14 CFR	Title 14 of the Code of Federal Regulations
AC	Advisory Circular
AC	Alternating Current
ACARS	Aircraft Communication Addressing and Reporting System
ACS	Airman Certification Standards
AD	Airworthiness Directive
ADF	Automatic Direction Finder
ADS-B	Automatic Dependent Surveillance Broadcast
AELP	Aviation English Language Proficiency
AFS	Flight Standards Service
AIS	Audio Integration System
AKT	Airman Knowledge Test
AKTR	Airman Knowledge Test Report
AMA	Aviation Maintenance - Airframe
AMG	Aviation Maintenance - General
AMP	Aviation Maintenance - Powerplant
AMT	Aviation Maintenance Technician
AMTS	Aviation Maintenance Technician School
ASAP	Aviation Safety Action Program
ASI	Aviation Safety Inspector
ASRP	Aviation Safety Reporting Program
ASRS	Aviation Safety Reporting System
ATC	Air Traffic Control
CFR	Code of Federal Regulations
CG	Center of Gravity
CPC	Corrosion Preventative Compounds
CSD	Constant-Speed Drive
DC	Direct Current
DME	Designated Mechanic Examiner
DME	Distance Measuring Equipment
EGT	Exhaust Gas Temperature
ELT	Emergency Locator Transmitter
EPR	Engine Pressure Ratio
FAA	Federal Aviation Administration
FADEC	Full Authority Digital Engine Controls
FOD	Foreign Object Debris
FOQA	Flight Operational Quality Assurance
FSDO	Flight Standards District Office
GPS	Global Positioning System
GPWS	Ground Proximity Warning Systems
HF	High Frequency
ID	Identification
IDG	Integrated Drive Generator
IFR	Instrument Flight Rules
ILS	Instrument Landing System
INS	Inertial Navigation System
JSAMTCC	Joint Services Aviation Maintenance Technician Certification Council
LOSA	Line Operations Safety Audit
LSC	Learning Statement Codes
MAC	Mean Aerodynamic Chord

## Abbreviations and Acronyms (continued)

MTG	Mechanic Test Generator
NDT	Nondestructive Testing
NiCad	Nickle-Cadmium (battery)
NVRAM	Nonvolatile Random Access Memory
O&P	Oral and Practical
ODA	Organization Designation Authorization
OK	Oklahoma
P.O.	Post Office
RA	Radio Altimeter
RAM	Random Access Memory
ROM	Read-Only Memory
RNAV	Area Navigation
RPM	Revolutions Per Minute
SATCOM	Satellite Communications
SDS	Safety Data Sheets
SFC	Specific Fuel Consumption
SMS	Safety Management System
STC	Supplemental Type Certificate
SUPS	Suspected Unapproved Parts
TCAS	Traffic Collision Avoidance System
TCDS	Type Certificate Data Sheet
TSO	Technical Standard Order
U.S.	United States of America