

Developments in Airman Testing:

Transition from PTS to ACS

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Rob Reckert, Manager
Regulatory Support Division



Federal Aviation
Administration



Why change?



The ACS started as a way to fix longstanding, systemic flaws, including knowledge testing.

FAA and industry partners determined the need for a systematic approach that would:

- ❖ provide clear standards for aeronautical knowledge.
- ❖ list specific behaviors for risk management and aeronautical decision making.
- ❖ consolidate overlapping tasks in the PTS
- ❖ tie the many “special emphasis” items to knowledge and skill.

In generic, inclusive terms, for each airman certificate or rating, 14 CFR lists required areas of *aeronautical knowledge* and *proficiency*.

- ❖ FAA developed the PTS to provide practical test performance metrics for proficiency in each Area of Operation and Task (i.e., “Elements”).
- ❖ Each PTS includes a lengthy list of largely undefined “special emphasis” areas.

There has never been a corresponding set of defined knowledge test standards, or metrics, for the aeronautical knowledge elements tested via the knowledge test.

Who created the ACS?

ACS arises from extensive collaboration with our community partners . . .



- **Industry-led development** – the ACS has been developed, refined, and tested, through three consecutive aviation training industry groups, with diverse representation.
- **Public comment** - the FAA established several dockets for the industry groups to receive public comments on the ACS.
- **Prototyping** - the FAA and its industry partners conducted ACS prototype activities to test and refine the ACS for private pilot (airplane) and instrument rating (airplane).

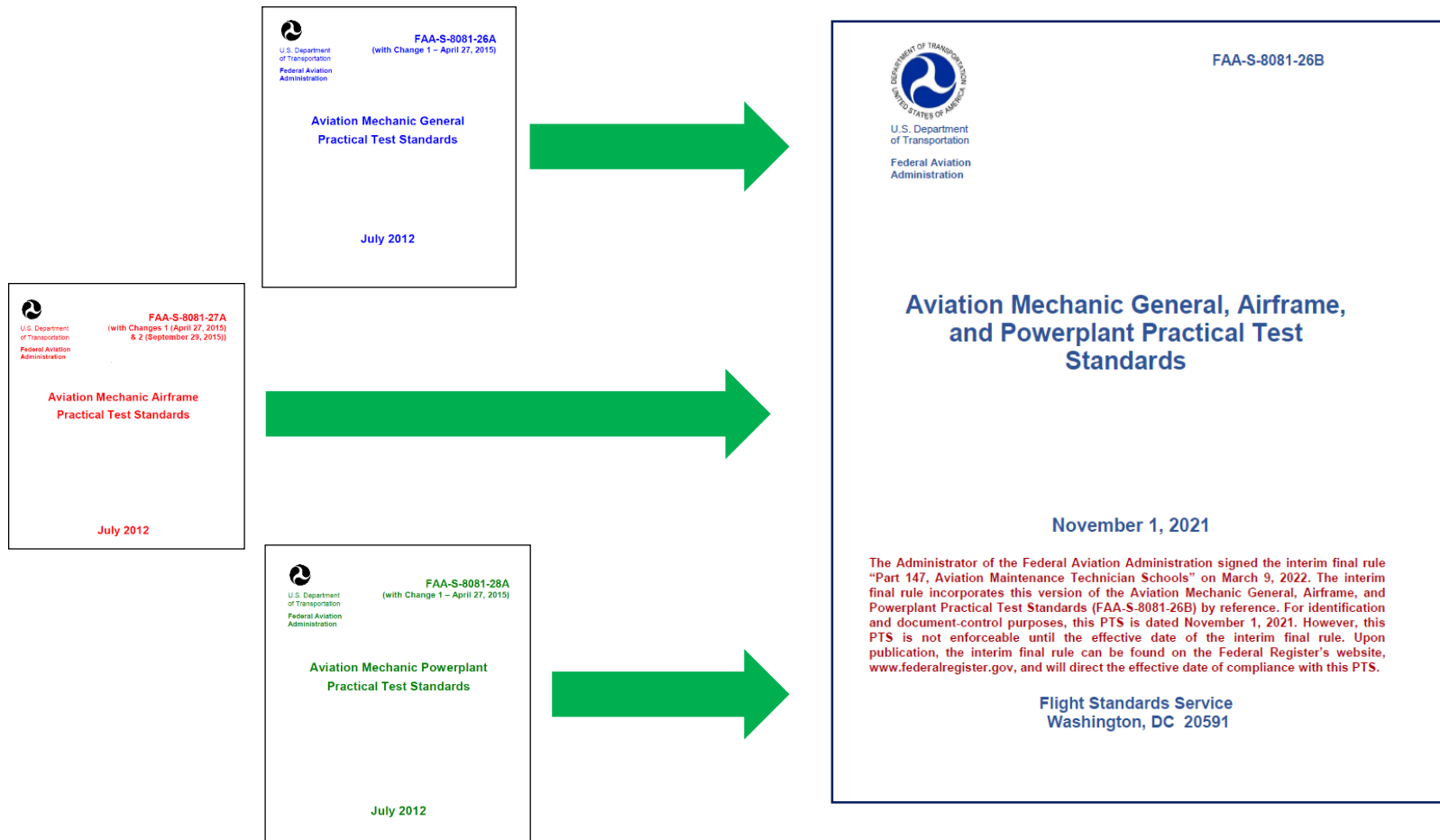
Key Aspects of the ACS

- Clear baseline of required knowledge, for the knowledge (computer-based) test, and correlated with the oral test
- More specific coding of missed knowledge test questions, and validation of basic knowledge of subjects during oral portion
- Subject/element-level skill performance data
- Communicates basic requirements for **Risk Management** ← This is new!!!
- Overall, objective evaluation of a candidate's basic knowledge and skill



3 are now 1 . . . the * NEW * PTS

Effective Date of NEW PTS = Effective Date of Interim Final Rule



The * NEW * PTS

Foreword

Note

FAA-S-8081-26B, Aviation Mechanic General Airframe, and Powerplant Practical Test Standards (PTS) supersedes:

- FAA-S-8081-26A, Aviation Mechanic General Practical Test Standards, dated April 2015
- FAA-S-8081-27A, Aviation Mechanic Airframe Practical Test Standards, dated April 2015 and
- FAA-S-8081-28A, Aviation Mechanic Powerplant Practical Test Standards, dated April 2015.

The aforementioned documents have been consolidated into this document.

This Aviation Mechanic General, Airframe, and Powerplant Practical Test Standards book has been published by the Federal Aviation Administration (FAA) to establish the standards for the Aviation Mechanic General, Airframe and Powerplant Oral and Practical Tests. The passing of each oral and practical test is a required step toward obtaining the Aviation Mechanic certificate with Airframe and/or Powerplant ratings. FAA inspectors and Designated Mechanic Examiners (DMEs) shall conduct oral and practical tests in compliance with these standards. Applicants should find these standards helpful in test preparation.

FOREWORD: Details on how the three PTS documents are consolidated

REQUIREMENTS & PROCEDURES: Details on how to use the new PTS

AMT Test Requirements and Procedure Information

Introduction

The Federal Aviation Administration (FAA) aircraft mechanic's oral and practical test(s) are outcome-based examinations. Before being issued a mechanic's certificate, with an airframe and/or powerplant rating, all applicants must demonstrate the minimum level of knowledge and skills for the certificate or rating sought.

Skill tests 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 professional and safe manner.

Definitions within:

Knowledge—(oral) elements are indicated by use of the words "Exhibits knowledge in...."

Skill—(practical) elements are indicated by the use of the words "Demonstrates the skill to perform...."

Requirements

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. They must additionally pass a written knowledge test, and the oral and practical tests for the certificate and/or rating sought, in accordance with 14 CFR part 65.

When using this PTS, the examiner must evaluate the applicant's knowledge and skill in sufficient depth to determine that the objective for each subject area element selected is met.

An applicant is not permitted to know before testing begins which selections in each subject area are to be included in his/her test. Therefore, an applicant should be well prepared in all oral and skill areas included in the practical test standards.

The PTS prescribes the subject areas on which the applicant may be tested on.

Under each subject, objectives define the general performance expectations of the elements within the subject areas, i.e. exhibit knowledge during the oral portion of the test, or demonstrate skill during the practical portion of the test.

For each element for which the applicant must demonstrate skill, a performance level is prescribed.

Performance Levels

The following is a detailed description of the meaning of each level.

Level 1

- Know basic facts and principles.
- Be able to find information, and follow directions and written instructions.
- Locate methods, procedures, instructions, and reference material.
- Interpretation of information not required.
- No skill demonstration is required.

Level 2

- Know, understand, and apply facts, principles, theories, and concepts.
- Be able to find and interpret maintenance data and information, and perform basic operations using the appropriate data, tools, and equipment.
- A high level of skill is not required.



PTS vs. ACS

Mechanic Knowledge Testing (§ 65.75)

PTS (Current) . . .

60 Questions: General Test

100 Questions: Airframe Test

100 Questions: Powerplant Test

3 answer choices per question

(1 correct answer, 2 distractors)

ACS . . .

60 Questions: General Test

100 Questions: Airframe Test

100 Questions: Powerplant Test

3 answer choices per question

(1 correct answer, 2 distractors)

Each subject area contains 5 to 10% of the test questions

70% passing score, per § 65.17 is applied to all three AMT exams

PTS vs. ACS: Mechanic Oral Testing (§ 65.79)

PTS (Current) . . .

- Applicants are asked a minimum of 176 questions:
- procedures require the DME to ask 4 per subject area, but may ask up to 7; and
 - up to 301 questions may be asked, if 7 questions are asked in each subject area.

The applicant must pass whatever was asked, to the 70% standard, by subject area, not relative to the entire test.

When the applicant fails a subject area, the test is stopped and marked as a fail.

Retest: Test all subjects again

Applicants must answer 3 of 4 correct, or 5 of 7 correct, per subject area.

ACS . . .

Applicants will be asked a minimum of 12 oral questions if 100% was achieved on all knowledge tests.

If every question missed on the knowledge test was a different ACS Code (but, the applicant still passes and continues to oral testing), there could be a maximum of 90 oral questions asked:

- General: 22 questions
- Airframe: 34 questions
- Powerplant: 34 questions

The test will have a question on each ACS Code missed on the knowledge test, plus 4 additional oral questions (per section (randomly selected by the test generator application.)

Retest: Test each failed subject again

The 70% standard is applied to the entire test.

PTS vs. ACS: Mechanic Practical Testing (§ 65.79)

PTS (current) . . .

There are 5 possible practical tests, from a grading perspective.

There are a maximum of 22 projects:

- **General:** 6 projects
- **Airframe Structures**, Section II: 3 projects
- **Airframe Systems**, Section III: 4 projects
- **Powerplant Theory and Maintenance**, Section IV: 3 projects
- **Powerplant Systems and Components**, Section V: 6 projects

For each test listed above, if the applicant fails any 1 project, the applicant fails the test, and the test stops.

Retest: The applicant must pass the failed subject area (same project failed previously), plus the maximum additional, randomly-selected subject areas, within that test area.

The current method uses a pass/fail standard, by project (i.e., if any project is failed, the applicant fails the test).

ACS (new) . . .

There are 3 tests total, with a maximum of 30 projects Tested:

- **General:** 9 projects out of 12 subject areas (stop after 2 failed)
- **Airframe:** 11 projects out of 15 subject areas (stop after 4 failed)
- **Powerplant:** 10 projects out of 14 subject areas (stop after 4 failed)

For each test listed above, the applicant tests up to the point the test is failed.

Retest: The applicant is retested on the failed project, plus an additional project (in the same subject area), along with any subject areas not tested on the previous test (i.e., failed and untested projects carry forward to the retest).

The new method will mitigate failed areas by adding a project, in the same subject area, to the retest.

Where can I find the ACS?

https://www.faa.gov/training_testing/testing/acs/media/amt_acs.pdf

Why is the ACS dated 11/1/21?



I. General	
Subject B. Aircraft Drawings	
References	AC 21-29; AC 43.13-1; FAA-H-8083-30
Objective	The following knowledge, risk management, and skill elements are required for aircraft drawings.
Knowledge	The applicant demonstrates understanding of:
AM.I.B.K1	Drawings, blueprints, sketches, charts, graphs, and system schematics, including commonly used lines, symbols, and terminology.
AM.I.B.K2	Repair or alteration of an aircraft system or component(s) using drawings, blueprints, or system schematics to determine whether it conforms to its type design.
AM.I.B.K3	Inspection of an aircraft system or component(s) using drawings, blueprints, or system schematics.
AM.I.B.K4	Terms used in conjunction with aircraft drawings, blueprints, or system schematics.
Risk Management	The applicant demonstrates the ability to identify, assess, and mitigate risks associated with:
AM.I.B.R1	Interpretation of plus or minus tolerances as depicted on aircraft drawings.
AM.I.B.R2	Specifications for design of alterations and repairs.
AM.I.B.R3	Applicability of the drawing or schematic to the particular aircraft by model and serial number.
AM.I.B.R4	Identification of the current version and applicability of drawing being used.
Skills	The applicant demonstrates the ability to:
AM.I.B.S1	Draw a sketch of a repair or alteration.
AM.I.B.S2	Identify the meaning of lines and symbols used in an aircraft drawing.
AM.I.B.S3	Interpret dimensions used in an aircraft drawing.
AM.I.B.S4	Identify changes on an aircraft drawing.
AM.I.B.S5	Determine material requirements from an aircraft drawing.
AM.I.B.S6	Interpret graphs and charts.

The BENEFITS . . .

The ACS testing process will . . .

- ✓ move away from rote memory.
- ✓ enhance the applicant's ability to demonstrate understanding of the required knowledge.
- ✓ enhance the applicant's correlation of that knowledge with the ability to perform the basic skills.
- ✓ enhance the applicant's ability to demonstrate an understanding of the safety risks as a certificated mechanic.



Airman Certification System



Changes: Regulations, Policies, Procedures, Feedback



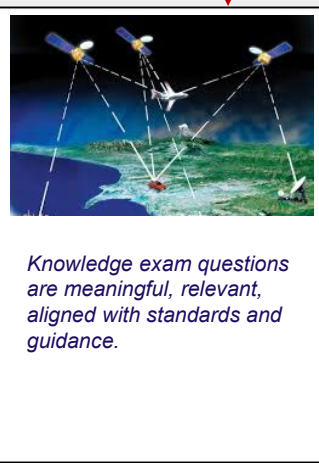
•ACS codes
Standards

Combined certification standards for knowledge, risk management, and skill



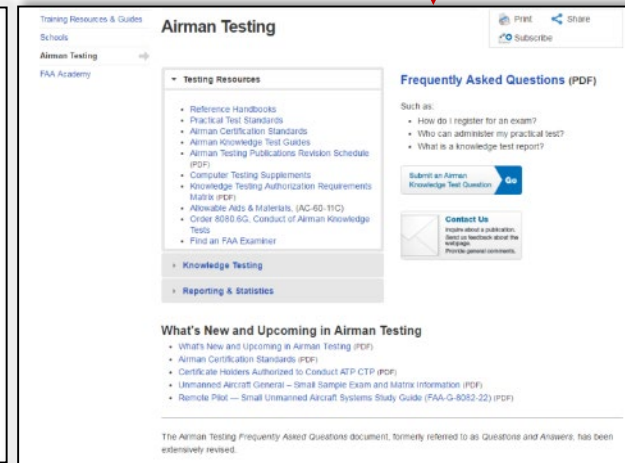
enable continuous alignment
Guidance

Rules, Advisory Circulars, other FAA information sources



Testing

Knowledge exam, oral and practical tests for issuance of certificate or rating



Change Management

Awareness, Desire, Knowledge, Ability, Reinforcement via disciplined change management plan with associated communications strategy

Alignment as appropriate with other Certificates / Ratings

Questions?

Comments Email: afs630@faa.gov

