



U.S. Department of Transportation
Federal Aviation Administration

FAA-S-ACS-11
Effective June 2019
With Change 1

Airman Certification Standards

Airline Transport Pilot and Type Rating Airplane

Flight Standards Service
Washington, DC 20591

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of Transportation

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Acknowledgments

The U.S. Department of Transportation, Federal Aviation Administration (FAA), Office of Safety Standards, Regulatory Support Division, Airman Testing Branch, P.O. Box 25082, Oklahoma City, OK 73125 developed this Airman Certification Standards (ACS) document with the assistance of the aviation community. The FAA gratefully acknowledges the valuable support from the many individuals and organizations who contributed their time and expertise to assist in this endeavor.

Availability

This ACS is available for download from www.faa.gov. Please send comments regarding this document to afs630comments@faa.gov.

Material in FAA-S-ACS-11 will be effective June 28, 2019. All previous editions of the Airline Transport Pilot and Aircraft Type Rating Practical Test Standards for Airplane will be obsolete as of this date for airplane applicants.

Foreword

The Federal Aviation Administration (FAA) publishes the Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards (ACS) document to communicate the aeronautical knowledge, risk management, and flight proficiency standards for airline transport pilot certification (ATP) and type rating certification in the airplane category and the following classes: single-engine land, single-engine sea, multiengine land and multiengine sea. This ACS incorporates and supersedes the previous Airline Transport Pilot and Aircraft Type Rating Practical Test Standards (PTS) for Airplane, FAA-S-8081-5.

The FAA views the ACS as the foundation of its transition to a more integrated and systematic approach to airman certification. The ACS is part of the safety management system (SMS) framework that the FAA uses to mitigate risks associated with airman certification training and testing. Specifically, the ACS, associated guidance, and test question components of the airman certification system are constructed around the four functional components of an SMS:

- Safety Policy that defines and describes aeronautical knowledge, flight proficiency, and risk management as integrated components of the airman certification system;
- Safety Risk Management processes through which internal and external stakeholders identify and evaluate regulatory changes, safety recommendations, or other factors that require modification of airman testing and training materials;
- Safety Assurance processes to ensure the prompt and appropriate incorporation of changes arising from new regulations and safety recommendations; and
- Safety Promotion in the form of ongoing engagement with both external stakeholders (e.g., the aviation training industry) and FAA policy divisions.

The FAA developed this ACS 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.

Rick Domingo
Executive Director, Flight Standards Service

Revision History

Document#	Description	Revision Date
FAA-S-8081-5F	Airline Transport Pilot and Aircraft Type Rating Practical Test Standards for Airplane	July 2008
FAA-S-ACS-11	Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards	May 10, 2019
FAA-S-ACS-11	Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards (Change 1)	May 28, 2019

Record of Changes

Change 1 (5/28/2019)

- Clarified the explanation for the “(ATP)” reference on select Tasks in the “Using the ACS” section of the Introduction (page 1).
- Removed the added rating tables from Appendix 5: Practical Test Roles, Responsibilities, and Outcomes. For the specific class rating in the airplane category, the applicant follows the applicable tasks in the renamed “ATP Certificate Task Table” found in Appendix 5: Practical Test Roles, Responsibilities, and Outcomes (page A-14).
- Updated ATP-specific Task information clarifying which applicants are required to complete the Tasks for Area of Operation I: Preflight Preparation in Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations (pages A-22 and A-23).
- Removed an incorrect statement in the Task information for Area of Operation II: Preflight Procedures, Task A, Preflight Assessment in Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations (page A-23).

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Introduction

Airman Certification Standards Concept

The goal of the airman certification process is to ensure the applicant possesses the knowledge, ability to manage risks, and skill consistent with the privileges of the certificate or rating being exercised, in order to act as pilot-in-command (PIC).

In fulfilling its responsibilities for the airman certification process, the Federal Aviation Administration (FAA) Flight Standard Service (AFS) plans, develops, and maintains materials related to airman certification, training, and testing. These materials have included several components. The FAA knowledge test measures mastery of the aeronautical knowledge areas listed in Title 14 of the Code of Federal Regulations (14 CFR) part 61. Other materials, such as handbooks in the FAA-H-8083 series, provide guidance to applicants on aeronautical knowledge, risk management, and flight proficiency.

Safe operations in today's National Airspace System (NAS) require integration of aeronautical knowledge, risk management, and flight proficiency standards. To accomplish these goals, the FAA drew upon the expertise of organizations and individuals across the aviation and training community to develop the Airman Certification Standards (ACS). The ACS integrates the elements of knowledge, risk management, and skill listed in 14 CFR part 61 for each airman certificate or rating. It thus forms a more comprehensive standard for what an applicant must know, consider, and do for the safe conduct and successful completion of each Task to be tested on both the qualifying FAA knowledge test and the oral and flight portions of the practical test.

During the ground and flight portion of the practical test, the FAA expects evaluators to assess the applicant's mastery of the topic in accordance with the level of learning most appropriate for the specified Task. While the oral questioning will continue throughout the entire practical test, the evaluator must use discretion when asking questions during the flight portion of the evaluation and avoid distractions that could compromise safety of flight. For some topics, the evaluator will ask the applicant to describe or explain. For other items, the evaluator will assess the applicant's understanding by providing a scenario that requires the applicant to appropriately apply and/or correlate knowledge, experience, and information to the circumstances of the given scenario. The flight portion of the practical test requires the applicant to demonstrate knowledge, risk management, flight proficiency, and operational skill in accordance with the ACS.

Note: *As used in the ACS, an evaluator may be any person authorized to conduct airman testing under parts 61, 141, and 142 (e.g., an FAA aviation safety inspector (ASI), designated pilot examiner (DPE), or other individual authorized to conduct a test for a certificate or rating).*

Using the ACS

The ACS consists of **Areas of Operation** arranged in a logical sequence, beginning with Preflight Preparation and ending with Postflight Procedures. Each Area of Operation includes **Tasks** appropriate to that Area of Operation. Each Task begins with an **Objective** stating what the applicant should know, consider, and do. The ACS then lists the aeronautical knowledge, risk management, and skill elements relevant to the specific Task, along with the conditions and standards for acceptable performance. The ACS uses **Notes** to emphasize special considerations and refers the user to specific appendices concerning the conduct of the practical test. In particular, Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations contains additional information and evaluator considerations for many of the Tasks. The ACS uses the terms "will" and "must" to convey directive (mandatory) information. The term "may" denotes items that are recommended but not required. The **References** for each Task indicate the source material for Task elements. For example, in Tasks such as "Airport markings, signs, and lights." (AA.II.C.K3), the applicant must be prepared for questions on any airport markings, signs, and lights presented in the references for that Task.

Change 1 (5/28/2019)

The abbreviation(s) within parentheses immediately following a Task refer to the category and/or class aircraft appropriate to that Task. The meaning of each abbreviation is as follows:

- I ATP: ATP Certificate only
- ASEL: Airplane – Single-Engine Land
- ASES: Airplane – Single-Engine Sea
- AMEL: Airplane – Multiengine Land
- AMES: Airplane – Multiengine Sea

Note: *When administering a test based on this ACS, the Tasks appropriate to the class airplane (ASEL, ASES, AMEL, or AMES) used for the test must be included in the plan of action. The absence of a class indicates the Task is for all classes. See Appendix 5: Practical Test Roles, Responsibilities, and Outcomes for all Task tables.*

Each Task in the ACS is coded according to a scheme that includes four elements. For example:

AA.I.B.K4:

- AA** = Applicable ACS (Airline Transport Pilot – Airplane)
- I** = Area of Operation I (Preflight Preparation)
- B** = Task B (Performance & Limitations)
- K4** = Knowledge Task element 4 (Aerodynamics and how it relates to performance.)

Knowledge test questions correspond to the ACS codes, which will ultimately replace the system of Learning Statement Codes (LSC). After this transition occurs, the Airman Knowledge Test Report (AKTR) will list an ACS code that correlates to a specific Task element for a given Area of Operation and Task. Remedial instruction and re-testing will be specific, targeted, and based on specified learning criteria. Similarly, a Notice of Disapproval for the practical test will use the ACS codes to identify the deficient Task elements. Applicants and evaluators should interpret the codes using the ACS revision in effect on the date of the knowledge test.

However, for knowledge tests taken before this system comes on line, only the LSC code (e.g., “PLT058”) will be displayed on the AKTR. The LSC codes link to references and broad subject areas. By contrast, each ACS code represents a unique Task element in the ACS. Because of this fundamental difference, there is no one-to-one correlation between Learning Statement (PLT) codes and ACS codes.

Because all active knowledge test questions for the Airline Transport Pilot Airplane Knowledge Tests now align with this ACS, evaluators can use LSC codes in conjunction with this ACS for targeting retesting of missed knowledge subject areas. The evaluator should look up the LSC code(s) on the applicant’s AKTR in the Learning Statement Reference Guide available using the following link: https://www.faa.gov/training_testing/testing/media/LearningStatementReferenceGuide.pdf. After noting the subject area(s), the evaluator can use the corresponding Area(s) of Operation and Task(s) in this ACS to narrow the scope of material for retesting to the appropriate ACS Area(s) of Operation and Task(s). Evaluators must verify the applicant has sufficient knowledge in those areas associated with incorrect responses on the knowledge test.

The applicant must pass the knowledge test before taking the practical test, if applicable to the certificate or rating sought. The practical test is conducted in accordance with the ACS and FAA regulations that are current as of the date of the test. Further, the applicant must pass the ground portion of the practical test before beginning the flight portion.

The FAA encourages applicants and instructors to use the ACS when preparing for the knowledge tests and practical tests. The FAA will revise the ACS as circumstances require. Evaluators conduct the practical test in accordance with the current ACS and FAA regulations. However, if an applicant is entitled to credit for Areas of Operation previously passed as indicated on a Notice of Disapproval or Letter of Discontinuance, evaluators should continue using the PTS/ACS effective on the test cycle start date.

I. Preflight Preparation

Task A. Operation of Systems	
References	14 CFR part 61; AC 90-117, AC 91.21-1, AC 91-78, AC 120-76; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM; Flight Standardization Board (FSB) Report (type specific)
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with airplane systems and their components; and their normal, abnormal, and emergency procedures. <i>Note: See Appendix 7: Aircraft, Equipment, and Operational Requirements & Limitations for information related to this Task.</i>
Knowledge	The applicant demonstrates an understanding of:
AA.I.A.K1	1. Landing gear —extension/retraction system(s), indicators, float devices, brakes, antiskid, tires, nose-wheel steering, and shock absorbers.
AA.I.A.K2	2. Powerplant —controls and indications, induction system, carburetor and fuel injection, turbocharging, cooling, mounting points, turbine wheels, compressors, deicing, anti-icing, and other related components.
AA.I.A.K3	3. Propellers —type, controls, feathering/unfeathering, auto-feather, negative torque sensing, synchronizing, synchrophasing, and thrust reverse including uncommanded reverse procedures.
AA.I.A.K4	4. Fuel system —capacity, drains, pumps, controls, indicators, cross-feeding, transferring, jettison, fuel grade, color and additives, fueling and defueling procedures, and fuel substitutions.
AA.I.A.K5	5. Oil system —capacity, allowable types of oil, quantities, and indicators.
AA.I.A.K6	6. Hydraulic system —capacity, pumps, pressure, reservoirs, allowable types of fluid, and regulators.
AA.I.A.K7	7. Electrical system —alternators, generators, batteries, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.
AA.I.A.K8	8. Pneumatic and environmental systems —heating, cooling, ventilation, oxygen, pressurization, supply for ice protection systems, controls, indicators, and regulating devices.
AA.I.A.K9	9. Avionics and communications —autopilot, flight director, Electronic Flight Instrument Systems (EFIS), Flight Management System (FMS), Electronic Flight Bag (EFB), Radar, Inertial Navigation Systems (INS), Global Navigation Satellite System (GNSS), Space-Based Augmentation System (SBAS), Ground-Based Augmentation System (GBAS), ground-based navigation systems and components, transponder, Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out, ADS – Contract (ADS-C), traffic awareness/warning/avoidance systems, terrain awareness/warning/alert systems, communication systems (e.g., data link, UHF/VHF/HF, satellite), Controller Pilot Data Link Communication (CPDLC), indicating devices, and emergency locator transmitter.
AA.I.A.K10	10. Ice protection —anti-ice, de-ice, pitot-static system protection, turbine inlet, propeller, windshield, airfoil surfaces, and other related components.
AA.I.A.K11	11. Crewmember and passenger equipment —oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, quick donning oxygen mask for crewmembers, passenger oxygen system.
AA.I.A.K12	12. Flight controls —ailerons, elevator(s), rudder(s), control tabs, control boost/augmentation systems, flaps, spoilers, leading edge devices, speed brakes, stability augmentation system (e.g., yaw damper), and trim systems.

(continued...)

(...continued)

Task A. Operation of Systems	
AA.I.A.K13	13. Pitot-static system with associated instruments and the power source for those flight instruments. Operation and power sources for other flight instruments.
AA.I.A.K14	14. Fire & smoke detection, protection, and suppression —powerplant, cargo and passenger compartments, lavatory, pneumatic and environmental, electrical/avionics, and batteries (on-aircraft and personal electronic devices).
AA.I.A.K15	15. Envelope protection —angle of attack warning and protection and speed protection.
AA.I.A.K16	16. The contents of the POH or AFM with regard to the systems and components in the airplane.
AA.I.A.K17	17. How to use a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL)
Risk Management	The applicant demonstrates the ability to identify, assess, and mitigate risks, encompassing:
AA.I.A.R1	1. Failure to detect system malfunctions or failures.
AA.I.A.R2	2. Improper management of a system failure.
AA.I.A.R3	3. Failure to monitor and manage automated systems.
AA.I.A.R4	4. Failure to follow appropriate checklists or procedures.
Skills	For the airplane provided for the practical test, the applicant demonstrates the ability to:
AA.I.A.S1	1. Explain and describe the operation of the airplane systems and components using correct terminology.
AA.I.A.S2	2. Recall immediate action items or memory items, if appropriate.
AA.I.A.S3	3. Identify system or component limitations listed in the POH/AFM.
AA.I.A.S4	4. Demonstrate or describe, as appropriate, the process for deferring inoperative equipment (e.g., MEL) and using a CDL.
AA.I.A.S5	5. Comply with operations specifications, management specifications, and letters of authorization, if applicable.
AA.I.A.S6	6. Through the use of the appropriate checklists and normal and abnormal procedures, demonstrate the proper use of the airplane systems, subsystems, and devices, as determined by the evaluator.

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This Federal Aviation Administration (FAA) Airline Transport Pilot and Type Rating – Airplane Airman Certification Standards (ACS) document provides the aeronautical knowledge, risk management, and flight proficiency standards for airline transport pilot (ATP) certification in the airplane category, single-engine land and sea, and multi-engine land and sea classes (ASEL, ASES, AMEL, AMES). This ACS incorporates and supersedes the Practical Test Standards (PTS) FAA-S-8081-5.

The ACS is the guide for students, instructors, and evaluators to understand what applicants must know, do, and consider to pass their FAA Knowledge Exam and practical (checkride) and earn their pilot certificate or rating.

FAA Certification Standards available from ASA:

Airman Certification Standards

- **Private Pilot** Airplane
- **Commercial Pilot** Airplane
- **Instrument Rating** Airplane
- **Remote Pilot** Small Unmanned Aircraft Systems

Practical Test Standards

- **Sport Pilot** Airplane/Weight-Shift Control/Powered Parachute/Flight Instructor
- **Private Pilot Rotorcraft** Helicopter & Gyroplane
- **Instrument Rating** Helicopter & Powered Lift
- **Commercial Pilot & Flight Instructor** Helicopter
- **Airline Transport Pilot** Dispatcher
- **Flight Instructor** Airplane Single-Engine Land & Sea
- **Flight Instructor** Airplane Multi-Engine Land & Sea
- **Flight Instructor Instrument** Airplane & Helicopter
- **Aviation Mechanic** General, Airframe, Powerplant

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