

# Update on the ACS

## *Airman Certification Standards*



Welcome to this introduction to the Airman Certification Standards, or ACS, concept. This presentation has two goals.

- First is to provide basic information on a new, industry-developed Airman Certification Standards framework that will replace the Practical Test Standards.
- Second is to offer an opportunity to provide comments and ask questions while the ACS project is still in the development and testing phase. At the end of this presentation is a slide listing FAA Headquarters contact information and additional sources of information on this project.

## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
- Who developed it?
- How is it better?
- What is the status?
- How do you know it will work?
- When does it take effect?
- How will I have to change?
- How can I learn more?



Here's the "flight plan" for this presentation.

# What is the ACS?

- **Airman Certification Standards**
  - “Enhanced” version of the PTS
  - Adds task-specific knowledge and risk management elements to each PTS Area of Operation/Task.
  - Result = integrated presentation of specific knowledge, skills, and risk management elements and performance metrics for each Task.



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- The ACS is essentially an “enhanced” version of the PTS.
- It adds task-specific knowledge and risk management elements to each PTS Area of Operation and Task.
- The result is a holistic, integrated presentation of specific knowledge, skills, and risk management elements and performance metrics for each Area of Operation and Task.

# What is the ACS?

Private Pilot – Airplane Airman Certification Standards  
Airplane—Single Engine, Multi Engine Land and Sea Areas of Operation

## V. Performance Maneuvers

ACS	PTS	<b>Task</b>	<b>A. Steep Turns</b>	
		<b>Reference</b>	FAA-H-8083-2, FAA-H-8083-3, POH/AFM	
		<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, skills and risk management associated with steep turns.	
		<b>Knowledge</b>	The applicant demonstrates understanding of:	
			1. Coordinated flight.	PA.V.A.K1
			2. Altitude control at various airspeeds.	PA.V.A.K2
			3. Maneuvering speed, including changes in weight.	PA.V.A.K3
			4. Controlling rate and radius of turn.	PA.V.A.K4
			5. Accelerated stalls.	PA.V.A.K5
			6. Overbanking tendencies.	PA.V.A.K6
			7. Use of trim in a turn.	PA.V.A.K7
			8. Aerodynamics associated with steep turns.	PA.V.A.K8
			9. Aerobatic requirements and limitations.	PA.V.A.K9
		<b>Skills</b>	The applicant demonstrates the ability to:	
			1. Establish the manufacturer's recommended airspeed or if one is not stated, a safe airspeed not to exceed $V_A$ .	PA.V.A.S1
			2. Roll into a coordinated 360° steep turn with at least a 45° bank.	PA.V.A.S2
			3. Perform the task in the opposite direction, as specified by the evaluator.	PA.V.A.S3
			4. Maintain the entry altitude $\pm 100$ feet, the entry airspeed $\pm 10$ knots, the assigned bank, and $\pm 5^\circ$ , and roll out on the entry heading $\pm 10^\circ$ .	PA.V.A.S4
		<b>Risk Management</b>	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:	
			1. Dividing attention between airplane control and orientation.	PA.V.A.R1
			2. Task management.	PA.V.A.R2
			3. Energy management.	PA.V.A.R3
			4. Stall/spin awareness.	PA.V.A.R4
			5. Situational awareness.	PA.V.A.R5
			6. Collision avoidance to include clearing the area.	PA.V.A.R6

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Here's what it looks like on the current draft Airman Certification Standards document for Private Pilot Airplane.

- The “skills” section of the ACS covers the flight proficiency performance metrics in today's PTS.
- For each PTS Area of Operation/Task, the ACS lists the elements of aeronautical knowledge that support that skill.
- In addition, for each PTS Area of Operation/Task, the ACS lists the risk management elements or behaviors associated with it.

# What is the ACS?

Private Pilot – Airplane Airman Certification Standards  
Airplane—Single Engine, Multi Engine Land and Sea Areas of Operation

## V. Performance Maneuvers

Aeronautical knowledge	Knowledge	<b>Task</b>	<b>A. Steep Turns</b>
		<b>Reference</b>	FAA-H-8083-2, FAA-H-8083-3, POH/AFM
		<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, skills and risk management associated with steep turns.
Flight proficiency	Skills	The applicant demonstrates understanding of:	
		1. Coordinated flight.	PA.V.A.K1
		2. Altitude control at various airspeeds.	PA.V.A.K2
Aeronautical decision-making and special emphasis	Risk Management	3. Maneuvering speed, including changes in weight.	PA.V.A.K3
		4. Controlling rate and radius of turn.	PA.V.A.K4
		5. Accelerated stalls.	PA.V.A.K5
		6. Overbanking tendencies.	PA.V.A.K6
		7. Use of trim in a turn.	PA.V.A.K7
		8. Aerodynamics associated with steep turns.	PA.V.A.K8
		9. Aerobatic requirements and limitations.	PA.V.A.K9
		The applicant demonstrates the ability to:	
		1. Establish the manufacturer's recommended airspeed or if one is not stated, a safe airspeed not to exceed $V_A$ .	PA.V.A.S1
		2. Rolls into a coordinated 360° steep turn with at least a 45° bank.	PA.V.A.S2
		3. Perform the task in the opposite direction, as specified by the evaluator.	PA.V.A.S3
		4. Maintain the entry altitude $\pm 100$ feet, the entry airspeed $\pm 10$ knots, the assigned bank, and $\pm 5^\circ$ , and roll out on the entry heading $\pm 10^\circ$ .	PA.V.A.S4
		The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:	
		1. Dividing attention between airplane control and orientation.	PA.V.A.R1
		2. Task management.	PA.V.A.R2
		3. Energy management.	PA.V.A.R3
		4. Stall/spin awareness.	PA.V.A.R4
		5. Situational awareness.	PA.V.A.R5
		6. Collision avoidance to include clearing the area.	PA.V.A.R6

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- The integrated ACS presentation helps applicants, instructors, and evaluators understand how knowledge, skills, and risk management are connected for any given Area of Operation/Task.
- Another benefit comes from defining some of the terms and concepts now presented in a list of “special emphasis” items in the PTS introduction, and placing them in the right context.
- The presentation of risk management enhances safety, and it can also contribute to much greater standardization in teaching and testing these concepts. This outcome benefits applicants, instructors, and evaluators.
- In summary, the ACS clearly specifies what the applicant must *know*, *do*, and *consider* to qualify for a given airman certificate or rating.

# What is the ACS?

Private Pilot – Airplane Airman Certification Standards  
Airplane—Single Engine, Multi Engine Land and Sea Areas of Operation

ACS includes unique codes for each element of knowledge, skill, and risk management.

## V. Performance Maneuvers

Task	A. Steep Turns	
Reference	FAA-H-8083-2, FAA-H-8083-3, POH/AFM	
Objective	To determine that the applicant exhibits satisfactory knowledge, skills and risk management associated with steep turns.	
Knowledge	The applicant demonstrates understanding of:	
	1. Coordinated flight.	PA.V.A.K1
	2. Altitude control at various airspeeds.	PA.V.A.K2
	3. Maneuvering speed, including changes in weight.	PA.V.A.K3
	4. Controlling rate and radius of turn.	PA.V.A.K4
	5. Accelerated stalls.	PA.V.A.K5
	6. Overbanking tendencies.	PA.V.A.K6
	7. Use of trim in a turn.	PA.V.A.K7
	8. Aerodynamics associated with steep turns.	PA.V.A.K8
Skills	9. Aerobatic requirements and limitations.	PA.V.A.K9
	The applicant demonstrates the ability to:	
	1. Establish the manufacturer's recommended airspeed or if one is not stated, a safe airspeed not to exceed $V_A$ .	PA.V.A.S1
	2. Roll into a coordinated 360° steep turn with at least a 45° bank.	PA.V.A.S2
	3. Perform the task in the opposite direction, as specified by the evaluator.	PA.V.A.S3
Risk Management	4. Maintain the entry altitude $\pm 100$ feet, the entry airspeed $\pm 10$ knots, the assigned bank, and $\pm 5^\circ$ , and roll out on the entry heading $\pm 10^\circ$ .	PA.V.A.S4
	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:	
	1. Dividing attention between airplane control and orientation.	PA.V.A.R1
	2. Task management.	PA.V.A.R2
	3. Energy management.	PA.V.A.R3
	4. Stall/spin awareness.	PA.V.A.R4
	5. Situational awareness.	PA.V.A.R5
	6. Collision avoidance to include clearing the area.	PA.V.A.R6

**PA** = Private Pilot Airplane (*defines applicable ACS*)

**V** = Performance Maneuvers (*defines Area of Operation*)

**A** = Steep Turns (*defines Task*)

**K5** = Accelerated Stalls (*defines element*)

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- One of the strongest tools that the industry team developed for the Airman Certification Standards framework is a new coding system.
- As you can see on the slide, the ACS assigns a unique and very intuitive code to each element of knowledge, skill, and risk management.
- Let's take a look at what PA.V.A.K5 means:
  - **PA** = Private Pilot Airplane (*defines applicable ACS*)
  - **V** = Performance Maneuvers (*defines Area of Operation*)
  - **A** = Steep Turns (*defines Task*)
  - **K5** = Accelerated Stalls (*defines element*)

# What is the ACS?

- ACS codes replace Learning Statement Codes (LSCs).
- ACS codes are anchored in the *standard*, not in references like LSCs.
- ACS codes provide sharper, more focused feedback to applicants, instructors, and evaluators.
- ACS codes enable FAA to align standards to handbooks and test questions, to maintain that alignment, and to develop better test questions.

Private Pilot – Airplane Airman Certification Standards  
Airplane—Single Engine, Multi Engine Land and Sea Areas of Operation

## V. Performance Maneuvers

<b>Task</b>	<b>A. Steep Turns</b>	
<b>Reference</b>	FAA-H-8083-2, FAA-H-8083-3, POH/AFM	
<b>Objective</b>	To determine that the applicant exhibits satisfactory knowledge, skills and risk management associated with steep turns.	
<b>Knowledge</b>	The applicant demonstrates understanding of:	
	1. Coordinated flight.	PA V A K1
	2. Attitude control at various airspeeds.	PA V A K2
	3. Maneuvering speed, including changes in weight.	PA V A K3
	4. Controlling rate and radius of turn.	PA V A K4
	5. Accelerated stalls.	PA V A K5
	6. Overbanking tendencies.	PA V A K6
	7. Use of trim in a turn.	PA V A K7
	8. Aerodynamics associated with steep turns.	PA V A K8
<b>Skills</b>	The applicant demonstrates the ability to:	
	1. Establish the manufacturer's recommended airspeed or if one is not stated, a safe airspeed not to exceed $V_a$ .	PA V A S1
	2. Roll into a coordinated 360° steep turn with at least a 45° bank.	PA V A S2
	3. Perform the task in the opposite direction, as specified by the evaluator.	PA V A S3
	4. Maintain the entry altitude $\pm 100$ feet, the entry airspeed $\pm 10$ knots, the assigned bank, and $\pm 5^\circ$ , and roll out on the entry heading $\pm 10^\circ$ .	PA V A S4
<b>Risk Management</b>	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:	
	1. Dividing attention between airplane control and orientation.	PA V A R1
	2. Task management.	PA V A R2
	3. Energy management.	PA V A R3
	4. Stall/spin awareness.	PA V A R4
	5. Situational awareness.	PA V A R5
	6. Collision avoidance to include clearing the area.	PA V A R6

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- When the Airman Certification Standards approach is implemented, ACS codes will replace the Learning Statement Codes (LSCs) that are used right now. The ACS codes have several very strong advantages over the Learning Statement Codes.
- First, the ACS codes are anchored in the standard – not in handbooks and other reference documents, like today's Learning Statement Codes.
- Second, the ACS codes enable the FAA to align standards to handbooks and test questions, to maintain that alignment, and to develop better test questions.
- Third, ACS codes provide sharper, more focused feedback to applicants, instructors, and evaluators.



## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
- Who developed it?
- How is it better?
- What is the status?
- How do you know it will work?
- When does it take effect?
- How will I have to change?
- How can I learn more?



Let's talk next about the rationale for developing the ACS.



## Why this approach?

- For each airman certificate or rating, 14 CFR lists required areas of *aeronautical knowledge* and *flight proficiency*.
  - FAA developed the PTS to provide practical test performance metrics for flight proficiency in each Area of Operation and Task.
    - In addition, each PTS now includes a lengthy list of largely undefined “special emphasis” areas.
  - There has never been a corresponding set of defined “KTS” (knowledge test standards) metrics for the aeronautical knowledge elements tested via “the written” exam.



- The ACS started as a way to improve knowledge testing.
- As you know, the regulations list required areas of *aeronautical knowledge* and *flight proficiency* for each pilot or instructor certificate and rating.
- Years ago, the FAA developed the Practical Test Standards (PTS) to provide practical test performance metrics for flight proficiency in each Area of Operation and Task.
- The PTS replaced the previous “flight test guides,” with the goal of ensuring a standardized approach to the practical test.
- The PTS is still a very solid and sound approach. Over time, though, the PTS has acquired a number of “barnacles” – things like overlapping or redundant tasks, and a long and growing list of largely undefined “special emphasis” items in the introductory material.
- There has never been a corresponding set of defined knowledge test standards – KTS -- metrics for the aeronautical knowledge elements tested via “the written” exam.

## Why this approach?

- Lack of a “KTS” has allowed the accumulation of too many FAA knowledge test questions that are:
  - Out-of-date (e.g., lots of NDB, not much RNAV)
  - Overly complex (e.g., multiple interpolations required to calculate a two-knot difference in wind speed or landing distance within three feet (!))
  - Irrelevant (e.g., height of blowing sand)
  - Disconnected from “real” skills and knowledge required for safe operation in today’s NAS.



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- The lack of a “KTS” to define and standardize aeronautical knowledge and risk management elements in the way that the PTS defines performance metrics for flight proficiency has created the situation we have today.
- The FAA knowledge test has been criticized for including too many questions that are:
  - Out-of-date (e.g., lots of NDB questions, but not many RNAV)
  - Overly complicated (e.g., questions requiring multiple interpolations to calculate very small values, such as a two-knot difference in wind speed or landing distance within three feet (!))
  - Irrelevant (e.g., questions on the height of blowing sand)
  - Disconnected from the “real” skills and knowledge required for safe operation in today’s National Airspace System (NAS).

## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
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- How is it better?
- What is the status?
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- We knew we needed to make improvements – and we knew we needed help from the aviation community.
- That leads to discussion of who developed the ACS.

## Who developed it?

### Phase I – 2011-2012:

- An ARC (Aviation Rulemaking Committee) developed the ACS concept and recommended that the FAA pursue it.

### Phase II – 2012-2013:

- The FAA tasked the industry Aviation Rulemaking Advisory Council (ARAC) to develop the ACS concept through the Airman Testing Standards and Training Working Group.

### Phase III – 2014-2016:

- The FAA tasked the ARAC to further advance the ACS concept through the Airman Certification System Working Group (ACS WG).



- The FAA used known, legally-sanctioned formats for getting stakeholder recommendations. There have been three industry groups so far:
- **Phase I – 2011-2012:** The FAA chartered the first industry stakeholder group in the form of an [Aviation Rulemaking Committee, or ARC](#).
  - The members of the Aviation Rulemaking Committee developed the Airman Certification Standards concept.
- **Phase II – 2012-2013:** The FAA asked the industry's Aviation Rulemaking Advisory Council – [ARAC](#) – for help in creating the ACS. ARAC formed the [Airman Testing Standards and Training Working Group](#) (ATST WG), which developed ACS documents for Private, Commercial, and Instructor certificates and the Instrument Rating. They also created a “baseline” proposal for an ATP ACS.
- **Phase III – 2014-2015:** The FAA asked [ARAC](#) to help us test and implement the ACS. ARAC formed the [Airman Certification System Working Group](#) (ACS WG) in March 2014. Ongoing tasks:
  - Refine & complete ACS for COM, ATP, and CFI certificates.
  - Help the FAA map standards to guidance (handbooks).
  - Prototype use of the ACS in selected locations.

# Who developed it?

## Current and Past Aviation Community Participants

Aircraft Owners & Pilots Association (AOPA)	Liberty University
Airlines for America	Mary Schu Aviation
Air Line Pilots Association	National Air Transportation Association
AnywhereEducation Inc.	National Association of Flight Instructors
Aviation Accreditation Bureau International	National Business Aviation Association
Aviation Research Training & Services	Oxford Flying Club
Aviation Supplies & Academics	Paul Alp, CFI
CAE	Polk State College
Cessna Pilot Centers	Redbird Simulations
Coalition of Airline Pilots	Regional Air Cargo Carriers Association
Embry-Riddle Aeronautical University	Robert Stewart, CFI
Flight Safety International	Satcom Direct
General Aviation Manufacturers Association	Society of Aviation and Flight Educators
Gleim	Sportys Academy
Florida Institute of Technology	University Aviation Association
Jeppesen	University of North Dakota
King Schools	

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A number of very talented, very knowledgeable individuals and organizations have participated in the ACS effort over the past four years.

This slide lists the individuals and organizations who have participated in at least one of the three groups.

The industry participants include representatives from many sectors:

- Advocacy groups (AOPA has chaired the last two groups)
- Instructor groups (NAFI, SAFE)
- Academia
- Test prep providers
- Manufacturers
- Parts 61, 121, 141, 142
- Knowledgeable individuals

## Flight Plan - Waypoints

- What is the ACS?
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- **How is it better?**
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We've already addressed some of the most obvious ways that the ACS improves the PTS, but now let's look at a few more.

## How is it better?

By integrating knowledge and risk management elements with skill elements and a standards-based coding scheme, the ACS:

- Enables a holistic approach to standards, guidance, and testing.
- Provides better information and feedback to applicants, instructors, evaluators, and inspectors.
- Allows the FAA to develop better test questions that are clearly tied to need-to-know standards and supported by guidance (handbooks).
- Reduces subjectivity and increases system-wide standardization.
- Enhances safety by ensuring that Task elements are clearly defined and that standards, guidance and testing for airman certification all work together effectively.

Area of Operation	1. Preflight Preparation
Task	2. Cross-Country Flight Planning
Reference	14 CFR part 91, FAA's 8000-1, FAA's 8000-2, Navigation Charts, AFD, AFD, NOTAMS
Objective	1. To determine that the applicant possesses satisfactory knowledge, skills and risk management associated with cross-country flight and VFR flight planning.
Knowledge	The applicant demonstrates understanding of:
	1. Route planning, including consideration of special use airspace. PAI.D.01
	2. Applying estimated enroute time (ETE) to flight planning. PAI.D.02
	3. Converting and calculating time relative to time zones and EFA. PAI.D.03
	4. Calculating time, rate, course, distance, heading, TAS and ground speed. PAI.D.04
	5. Fuel planning. PAI.D.05
	6. Altitude selection accounting for terrain and obstacles, glide distance of approach, VFR cruising altitude, and effect of wind. PAI.D.06
	7. Conditions conducive to icing. PAI.D.07
	8. Performance based on VFR charts. PAI.D.08
	9. Elements of a VFR flight plan. PAI.D.09
	10. Procedures for activating and closing a VFR flight plan in controlled and non-controlled airspace. PAI.D.10
Skills	11. Interpreted weather phenomena. PAI.D.011
	The applicant demonstrates the ability to:
	1. Determine a cross-country flight plan assigned by the evaluator including a risk analysis. PAI.D.012
	2. Transfer knowledge used for one region to another region (given local details, terrain, etc.). PAI.D.013
	3. Identify fuel planning/margin fuel. PAI.D.014
	4. Select appropriate routes, altitudes, and checkpoints. PAI.D.015
	5. Calculate fuel required based on a scenario provided by the evaluator. PAI.D.016
	6. Create and file a VFR flight plan. PAI.D.017
	7. Interpret departure, en route, arrival route with reference to proper charts. PAI.D.018
	8. Explain or demonstrate diversion to alternate. PAI.D.019
	9. Apply pertinent information from AFD, NOTAMS relative to airport, runway and taxiway closures, and other flight publications. PAI.D.020
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks:
	1. The pilot. PAI.D.021
	2. The aircraft. PAI.D.022
	3. The environment. PAI.D.023
	4. Current procedures. PAI.D.024
	5. Lack of appropriate training when flight is planned in an area different from the pilot's local area, such as in mountains, high density airspace, or terrain. PAI.D.025
	6. Tendency to complete the flight in spite of adverse changes in conditions. PAI.D.026
	7. Appropriate VFR altitudes for the duration of flight. PAI.D.027
	8. Limitations of AFD. PAI.D.028
	9. Conservative fuel reserves. PAI.D.029
	10. A route involving significant environmental influences, such as mountains and large bodies of water. PAI.D.030
	11. Flight in areas conducive for landing or below personal minimums. PAI.D.031
	12. Recognition of seasonal weather. PAI.D.032

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- By integrating knowledge and risk management elements with skill elements and a standards-based coding scheme, the ACS:
  - Clearly shows what an applicant must know, do, and consider to earn an airman certificate or rating.
  - Provides better feedback to applicants, instructors, evaluators, and inspectors on what the applicant may not understand.
  - Allows the FAA to develop test questions that are clearly tied to standards and supported by guidance (handbooks).
  - Reduces subjectivity and increases system-wide standardization.
  - Through the standards-based coding, enhances safety by ensuring that standards, guidance and testing for airman certification all work together effectively.



# How is it better?

**Better Feedback** →

## Computer Test Report

U.S. DEPARTMENT OF TRANSPORTATION  
Federal Aviation Administration  
Airman Knowledge Test Report

NAME: John Doe  
 APPLICANT ID: 12345678      EXAM ID: 50010220140465201  
 EXAM: Private Pilot Airplane (PAR)      EXAM DATE: 01/02/2014      EXAM SITE: LAS72403  
 SCORE: 90      GRADE: PASS      TAKE: 1

Learning statement codes listed below represent incorrectly answered questions. Learning statement codes and their associated statements can be found at [www.faa.gov/training\\_testing/testing/airmen](http://www.faa.gov/training_testing/testing/airmen).

Reference material associated with the learning statement codes can be found in the appropriate knowledge test guide at [www.faa.gov/training\\_testing/testing/airmen/test\\_guides](http://www.faa.gov/training_testing/testing/airmen/test_guides).

A single code may represent more than one incorrect response.

PLT064 PLT141 PLT077 PLT161 PLT434 PRT163

## Computer Test Report

U.S. DEPARTMENT OF TRANSPORTATION  
Federal Aviation Administration  
Airman Knowledge Test Report

NAME: John Doe  
 APPLICANT ID: 12345678      EXAM ID: 50010220140465201  
 EXAM: Private Pilot Airplane (PAR)      EXAM DATE: 01/02/2014      EXAM SITE: LAS72403  
 SCORE: 90      GRADE: PASS      TAKE: 1

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A single code may represent more than one incorrect response.

PA.I.D.K4 PA.III.A.K3 PA.II.D.K2 PA.I.E.K2 **PA.III.B.K4** PA.I.E.K1

PA = Private Pilot Airplane (Applicable ACS)  
 III = Airport & Seaplane Base (Area of Operation)  
 B = Traffic Patterns (Task)  
 K4 = Right of Way Rules (Element)

Today's test report lists reference-based LSCs that are often very broad – creates an obstacle to effective remedial training and retesting.

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Here's an example of better feedback.

- When an applicant finishes the knowledge test today, he or she gets a computer test report that looks like the example on the left. The Learning Statement Codes are on the bottom of the form, and they are intended to show the areas of knowledge the applicant missed on the test.
- The applicant, the instructor, and eventually the evaluator have to go to a separate publication and look up the codes. The codes are numerous, and some of them are overlapping. They are assigned somewhat subjectively, and they point to a broad area in one or more FAA reference documents. That makes it harder to ensure effective re-training.
- In the ACS world, the computer test report will list very specific ACS codes. For example, PA.III.B.K4 tells the applicant, the instructor, and the evaluator that there is a need to focus more on right-of-way rules.
  - PA = Private Pilot Airplane (Applicable ACS)
  - III = Airport & Seaplane Base (Area of Operation)
  - B = Traffic Patterns (Task)
  - K4 = Right of Way Rules (Element)
- The ACS codes (the "S" codes for skills) will be provided on the practical test Notice of Disapproval to show deficient skills.

# How is it better?

## Better Test Questions

- ACS Exam Review Board\* is already using ACS codes as a tool to review and revise knowledge test questions – PVT, IFR, COM, ATP.
- Expansion of coding to other knowledge test question banks will follow.
- ACS codes will also provide guidance for developing new knowledge test questions that are more sharply targeted to essential knowledge, skill, and risk management.

\* ACS Exam Review Board includes subject matter experts from several Flight Standards policy divisions, as well as one non-FAA representative who has extensive experience in the test development field.



Here's how the ACS helps with better test questions.

- The FAA has created an ACS Exam Review Board that includes subject matter experts from AFS-200 (Air Transportation Division), AFS-400 (Flight Technologies & Procedures Division), AFS-800 (General Aviation & Commercial Division), and AFS-600 (Regulatory Support Division).
- It also includes one non-FAA representative who has extensive experience in the test development field.
- The ACS Exam Review Board is using the ACS codes as a tool to review and revise knowledge test questions for the Private Pilot Airplane, Instrument Rating Airplane, and Airline Transport Pilot Airplane exams.
- Expansion of coding to other knowledge test question banks will follow.
- ACS codes also provide guidance for developing new test questions that are targeted to essential knowledge, skill, and risk management.
- In summary, the ACS helps the FAA ensure that each knowledge test question has a real purpose, and that it has a clear link to standards and guidance.

# How is it better?

## Better Presentation

- Often-overlooked introductory material in PTS has been relocated to specifically focused appendices.
- Roles, responsibilities, and expectations are clearly defined.
- Lengthy notes in individual PTS Tasks have been integrated into the appropriate Appendix.

[APPENDIX 1 - The Knowledge Test - Eligibility, Prerequisites and Testing Centers](#)  
[Knowledge Test Description](#)  
[English Language Proficiency](#)  
[Knowledge Test Requirements](#)  
[Knowledge Test Centers](#)  
[Knowledge Test Registration](#)

[APPENDIX 2 - Knowledge Test Procedures and Tips](#)  
[Acceptable Materials](#)  
[Test Tips](#)  
[Cheating or Other Unauthorized Conduct](#)  
[Testing Procedures for Applicants Requesting Special Accommodation](#)

[APPENDIX 3 - Airman Knowledge Test Report](#)  
[General Information](#)  
[FAA Knowledge Test Question Coding](#)

[APPENDIX 4 - The Practical Test - Eligibility and Prerequisites](#)

[APPENDIX 5 - Practical Test Roles, Responsibilities, and Outcomes](#)  
[Applicant Responsibilities](#)  
[Instructor Responsibilities](#)  
[Evaluator Responsibilities](#)  
[Possible Outcomes of the Test](#)  
[Practical Test Checklist \(Applicant\)](#)  
[Additional Station Test Table](#)

[APPENDIX 6 - Safety of Flight](#)  
[General](#)  
[Stall and Spin Awareness](#)  
[Use of Checklists](#)  
[Use of Obstructions](#)  
[Passive Exchange of Flight Controls](#)  
[Accidental Decision Making, Risk Management, CRM and SRM](#)  
[Weathering Considerations](#)  
[Single Engine Considerations](#)

[APPENDIX 7 - Aircraft, Equipment, and Operational Requirements & Limitations](#)  
[Aircraft Requirements & Limitations](#)  
[Equipment Requirements & Limitations](#)  
[Operational Requirements & Limitations](#)

[APPENDIX 8 - Use of FSTDs and ATDs](#)  
[Use of FSTDs](#)  
[Use of ATDs](#)  
[Credit for Time in an FSTD](#)  
[Credit for Time in an ATD](#)  
[Use of an FSTD on a Practical Test](#)

[APPENDIX 9 - References](#)

[APPENDIX 10 - Abbreviations and Acronyms](#)

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Another improvement is the organization.

- The ACS introduction is much shorter than the PTS.
- As you see on the slide:
  - Often-overlooked introductory material in PTS has been relocated to specifically focused appendices.
  - Roles, responsibilities, and expectations are clearly defined.
  - Lengthy notes in individual PTS Tasks have been integrated into the appropriate appendix.

## How is it better?

### Better Presentation

The ACS simplifies “paper management” by integrating a number of FAA knowledge exam guidance documents:

- Test Guides (FAA-G-8082 series)
- Learning Statement Reference Guide
- Knowledge Testing Authorization Requirements Matrix

PTS

Test Guide

LSC Reference Guide (replaced by ACS codes)

Test Matrix

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= ACS (less paper, less redundancy, and less chance for inconsistency)

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- Still another benefit is that the ACS simplifies paper management, because it consolidates and integrates several existing knowledge exam guidance documents into the ACS for each certificate and rating. These include:
  - The Private Pilot Test Guide (FAA-G-8082-17)
  - The Learning Statement Reference
  - The Knowledge Testing Authorization Requirements Matrix
- The ACS = the PTS + 8082 document + LSC Reference Guide + Test Matrix.
- The result is less paper, less redundancy, and less chance for inconsistency.

## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
- Who developed it?
- How is it better?
- What is the status?
- How do you know it will work?
- When does it take effect?
- How will I have to change?
- How can I learn more?



Next we'll cover the status of this project.

## What is the status?

- Standards
  - Draft ACS exists for PVT, COM, IRA, ATP (airplane only)
  - Authorized Instructor ACS still in development
  - All but ATP have been submitted multiple times for public comment via FAA docket
- Guidance
  - Industry ACS Working Group has reviewed PHAK, AFH, RM, IFH, IPH, and CT-8080 supplements
  - FAA will incorporate many industry recommendations in next editions
- Testing
  - FAA contracting for comprehensive test management services
  - ACS Exam Review Board is using ACS to revise test questions



### Standards

- Draft ACS exists for PVT, COM, IRA, ATP (airplane only)
- All but ATP have been published multiple times for public comment (Federal Register notice and FAA docket established on behalf of the industry Working Groups)

### Guidance

- Industry ACS Working Group has reviewed Pilot's Handbook of Aeronautical Knowledge, Airplane Flying Handbook, Risk Management Handbook, Instrument Flying Handbook, Instrument Procedures Handbook, and CT-8080 test supplements
- FAA will incorporate many industry recommendations in next editions of these (and other) handbooks.
- FAA plans to develop an entirely new Aviation Instructor's Handbook.

### Testing

- FAA contracting for comprehensive test management services
- ACS Exam Review Board is using ACS to revise test questions

## What is the status?

- The Authorized Instructor ACS (still in development) will significantly improve instructor testing and training. It
  - Offers a practical (not rote) approach to Fundamentals of Instructing (FOI) Tasks
  - Requires understanding of how to teach risk management, and how to practice risk management in flight instructional activities
  - Includes only the flight maneuver tasks unique to the instructor certificate.



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- The Authorized Instructor ACS (still in development) will improve instructor testing and training.
- Key features:
  - It offers a practical (not academic or rote) approach to Fundamentals of Instructing (FOI) Tasks
  - It requires understanding of how to teach risk management, and how to practice risk management in flight instructional activities
  - It includes only the flight maneuver tasks unique to the instructor certificate. Advantages:
    - Avoids duplication and eliminates potential for divergence
    - Pushes the applicant to constant use of foundational ACSs (e.g., PVT, COM)
- The industry working group expects to start sharing the draft instructor ACS for review and comment during the first half of 2016.



## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
- Who developed it?
- How is it better?
- What is the status?
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- Both the FAA and the industry experts who developed the Airman Certification Standards approach are anxious to make sure it works in the “real world” before introducing it as the new testing and training standard.
- Together, FAA and the industry stakeholders who developed the ACS have taken several unprecedented steps to meet this goal.

## How do you know it will work?

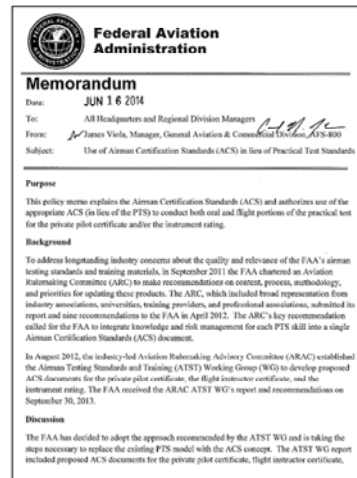
- The FAA and members of the industry-led ACS Working Group have “pressure tested” the ACS concept:
  - **Public comment** - the FAA established several dockets for the ACS WG to receive public comments on the PVT, IRA, and Authorized Instructor ACS documents.
  - **Prototyping** - the FAA and the ACS WG have developed and used a formal prototyping process to gain experience with, and feedback on, the PVT and IRA ACS.
    - PVT prototyped twice in Orlando from June 2014-June 2015; feedback from applicants, instructors, evaluators, and FSDO has been positive.
    - IRA prototypes now underway in Seattle and Orlando.



- First is public comment.
- On behalf of the various industry working groups, the FAA twice established dockets to receive public feedback on the draft PVT, IFR, and Instructor ACS.
- The working groups have used those comments to refine the ACS, and also to develop a set of Frequently Asked Questions now available on the FAA website (link shown at the end of this presentation).
- A second big effort is prototyping.
- Prototype efforts started in the summer of 2014, with a small private pilot airplane certification course at the Embry-Riddle Aeronautical University's Summer Academy program in Daytona Beach. Instructors, evaluators, and ORL FSDO inspectors all found the ACS to be a significant improvement over the current approach.
- From fall 2014 through spring 2015, ACS Working Group members and ORL FSDO inspectors collaborated on a larger prototype that includes part 61 instructors, applicants, and DPEs. Again, there was positive feedback from all groups who participated.
- In the fall of 2015, we launched ACS Instrument Rating Airplane prototype programs in Orlando and in Seattle.
- We look forward to the feedback we expect from these prototypes.

# How do you know it will work?

- The FAA reviews each industry-developed ACS to validate its content and ensure that all PTS elements are included (albeit occasionally in a different place).
- In support of prototype effort, AFS 800 guidance allows use of ACS in lieu of PTS.
- 8900 will reference “PTS or ACS;” changes already underway.
- New DPE guidance was developed with ACS in mind.



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- The FAA reviews each industry-developed ACS to validate its content and ensure that all PTS elements are included (albeit occasionally in a different place).
- The FAA's General Aviation and Commercial Division (AFS 800) has issued guidance that allows use of the ACS in lieu of the PTS for prototyping purposes.
- AFS-800 is now working on two additional sets of ACS-enabling guidance:
  - A Notice to FAA aviation safety inspectors the builds on the original guidance
  - Changes to the FAA's 8900 order that will reference “PTS or ACS.”
- New DPE guidance (8900.2) was also developed with ACS in mind.

## Flight Plan - Waypoints

- What is the ACS?
- Why this approach?
- Who developed it?
- How is it better?
- What is the status?
- How do you know it will work?
- **When does it take effect?**
- How will I have to change?
- How can I learn more?



Next topic is the ACS implementation timeline.

## When does it take effect?

- Targeting June 2016\* implementation for airplane:
  - PVT ACS
  - COM ACS
  - IFR ACS
- Draft ATP ACS is under internal and external review
  - Next step – *Federal Register* publication for comment
- Authorized Instructor ACS is still in development
  - Next step – Initial prototyping and *Federal Register* publication for additional comment



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19	20	21	22	23	24	25
26	27	28	29	30		

*\*Actual deployment date depends on (a) prototype results and (b) implementation of test management services contract.*

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The FAA and the industry group are targeting June 2016\* implementation for airplane:

- PVT ACS
- COM ACS
- IFR ACS
- Draft ATP ACS is under internal and external review
  - Next step – *Federal Register* publication for comment
- Authorized Instructor ACS is still in development
  - Next step – Initial prototyping and *Federal Register* publication for additional comment

*The note on the bottom of the slide is very important :*

*Actual deployment date depends on (a) prototype results and (b) implementation of test management services contract.*

## Flight Plan - Waypoints

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## How will I have to change?

- *The ACS does not change the check ride or skill performance metrics in the PTS.*
- *The ACS will not lengthen the practical test.*
  - There is no difference between PTS and ACS requirements for in-flight evaluation of skill Tasks.
  - ACS requires the evaluator to assess only ONE knowledge element and ONE risk management element in each Task.
  - ACS codes on Airman Knowledge Test Report give the evaluator more focused information for use in developing a plan of action.



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- The ACS does not change the checkride or PTS performance metrics.
- The ACS will not make the checkride any longer than it takes to conduct a PTS checkride today.
  - The expectation is for the evaluator to address ONE knowledge element and ONE risk management element in each Task.
  - As is the case now, the evaluator has discretion to address additional knowledge and risk management elements if the airman knowledge test report and/or the applicant's response to questions suggests the need for more thorough coverage.
- Overall, the ACS could expedite the check ride because it gives the evaluator more focused information on:
  - Knowledge and risk management elements associated with each skill task.
  - Specific information (via ACS codes) on items the applicant missed on the knowledge test.



# How will I have to change?

Applicants will use ACS to:

- Clearly understand what they must:
  - Know (knowledge)
  - Do (skill)
  - Consider (risk management)in order to qualify for any given airman certificate or rating.
- Develop an understanding of how knowledge, skill, and risk management elements work together for safe performance of each Task.



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Applicants will use ACS to:

- Clearly understand what they are expected to:
  - Know (knowledge)
  - Do (skill)
  - Consider (risk management)
- to qualify for any given airman certificate or rating.
- Develop an understanding of how knowledge, skill, and risk management elements work together for safe performance of each Task.

## How will I have to change?



- Instructors will use ACS to:
  - Ensure that the applicant meets the knowledge, skill, and risk management standards established for each Task.
  - Deepen the applicant's understanding of how knowledge, skill, and risk management elements work together to promote safe operation in the NAS.

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- Ensure that the applicant meets the knowledge, skill, and risk management standards established for each Task.
- Deepen the applicant's understanding of how knowledge, skill, and risk management elements work together to promote safe operation in the NAS.

## How will I have to change?



- Evaluators will use ACS to:
  - Develop the Plan of Action
  - Create better / more focused questions and scenarios for both phases of the practical test
  - Identify (via ACS codes) and focus more sharply on deficient knowledge and risk management areas during the oral assessment phase\*
  - Report (using ACS codes) any deficient areas on the practical test.

*\*The evaluator will test skill elements as in today's PTS. The ACS only requires the evaluator to test one knowledge element and one risk management element in each Task, but – as is the case with the PTS -- the evaluator has discretion to test additional elements as needed.*

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Evaluators will use ACS to:

- Develop the Plan of Action
- Create better / more focused questions and scenarios for both phases of the practical test
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- Report (using ACS codes) any deficient areas on the practical test.

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## Flight Plan - Waypoints

- What is the ACS?
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- When does it take effect?
- How will I have to change?
- How can I learn more?



The FAA has published a lot of information about the ACS on the internet.

## How can I get more information?

Please contact:

- **Bob Newell**, Manager,  
Airman Testing Standards  
Branch (AFS-630)
  - [Robert.L.Newell@faa.gov](mailto:Robert.L.Newell@faa.gov)
  - 405-954-0473
  - [www.faa.gov/training\\_testing/testing/](http://www.faa.gov/training_testing/testing/)
- **Susan Parson**, Special  
Technical Assistant, Flight  
Standards Service (AFS-3A)
  - [Susan.Parson@faa.gov](mailto:Susan.Parson@faa.gov)
  - 202-267-9064

**Resources & info available upon request include:**

- Links to ARC & ARAC reports
- FAQs on ACS
- AFS-800 memo on use of the ACS in lieu of PTS
- Copies of draft ACS documents
- PDF version of ACS presentation
- Sample PVT and IRA knowledge tests with ACS codes\*

\*Available at  
[www.faa.gov/training\\_testing/testing/](http://www.faa.gov/training_testing/testing/)

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This slide shows contact and resource information.

The ACS development process is intended to be as transparent as possible, so questions and comments are welcomed and strongly encouraged.

Both the FAA employees assigned to this project and the industry experts who created the ACS are eager to benefit from stakeholder viewpoints and perspectives.

Thanks for taking the time to learn about the ACS. Please keep a lookout for future developments in this exciting project.