

The background features a blue sky with white clouds. A large white outline of a commercial jet is at the top center. Below it, a satellite is shown in orbit, connected to the jet by a dashed line. Further down, two smaller aircraft are shown in a descending path, also connected by dashed lines. On the left side, there is a large green and yellow curved graphic element. The text 'Washington Update' is centered in white.

# Washington Update

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Ric Peri

Aircraft Electronics Association  
FAASTeam Representative

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# Who we are...

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- The Aircraft Electronics Association (AEA) is a trade organization that represents over 1300 aviation businesses worldwide including:
  - Repair stations that specialize in maintenance, repair and installation of avionics and electronic systems in general aviation aircraft.
  - Instrument repair stations
  - Manufacturers of avionics equipment, instruments, aircraft, and test equipment;
  - Major distributors, and;
  - Educational institutions.



- Advocate (Lobbyist) for maintenance organizations.
  - US – Canada – Europe – South Pacific
- A & P mechanic (Prior IA)
- 40 plus years of experience
  - Fixed wing/Helicopters
  - Piston engines
  - Turbo-prop/turbo-shaft/turbo-fan engines
- FAASTeam Representative

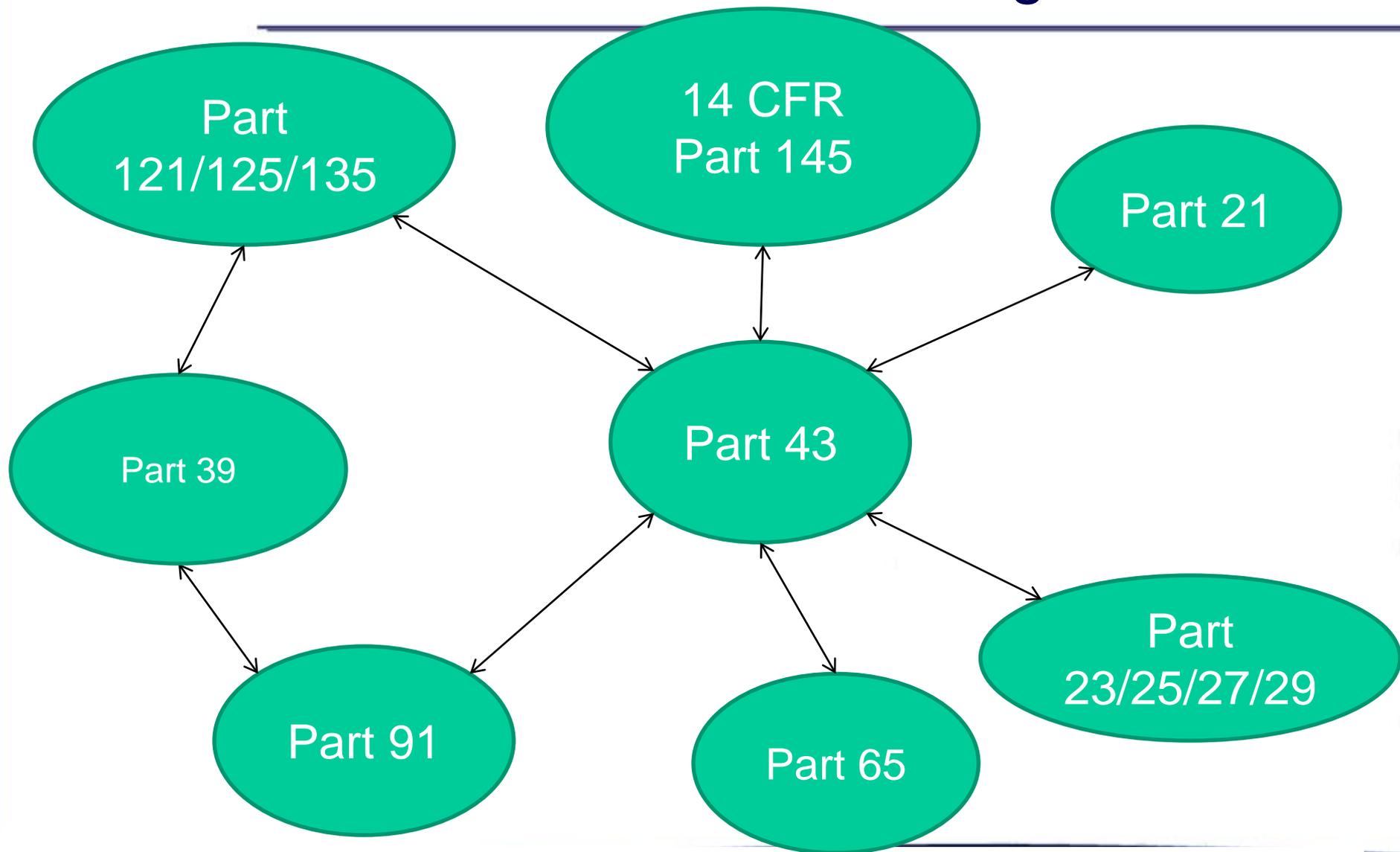
# Today's Agenda

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- Washington Update
  - Regulatory activity
  - Part 23 NPRM
- Thought for the day.....



# Interlinked Regulations



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# Part 23 Notice of Proposed Rulemaking (NPRM)

Revision of Airworthiness Standards for Normal, Utility, Acrobatic, and Commuter Category Airplanes

Docket No.: FAA-2015-1621

March 14, 2016



# Part-23 Airplane Certification Challenges

## – Model for Path to Change



- Contains:
  - Safety Standards
  - Design Standards
  - Methods of Compliance
- Weight based



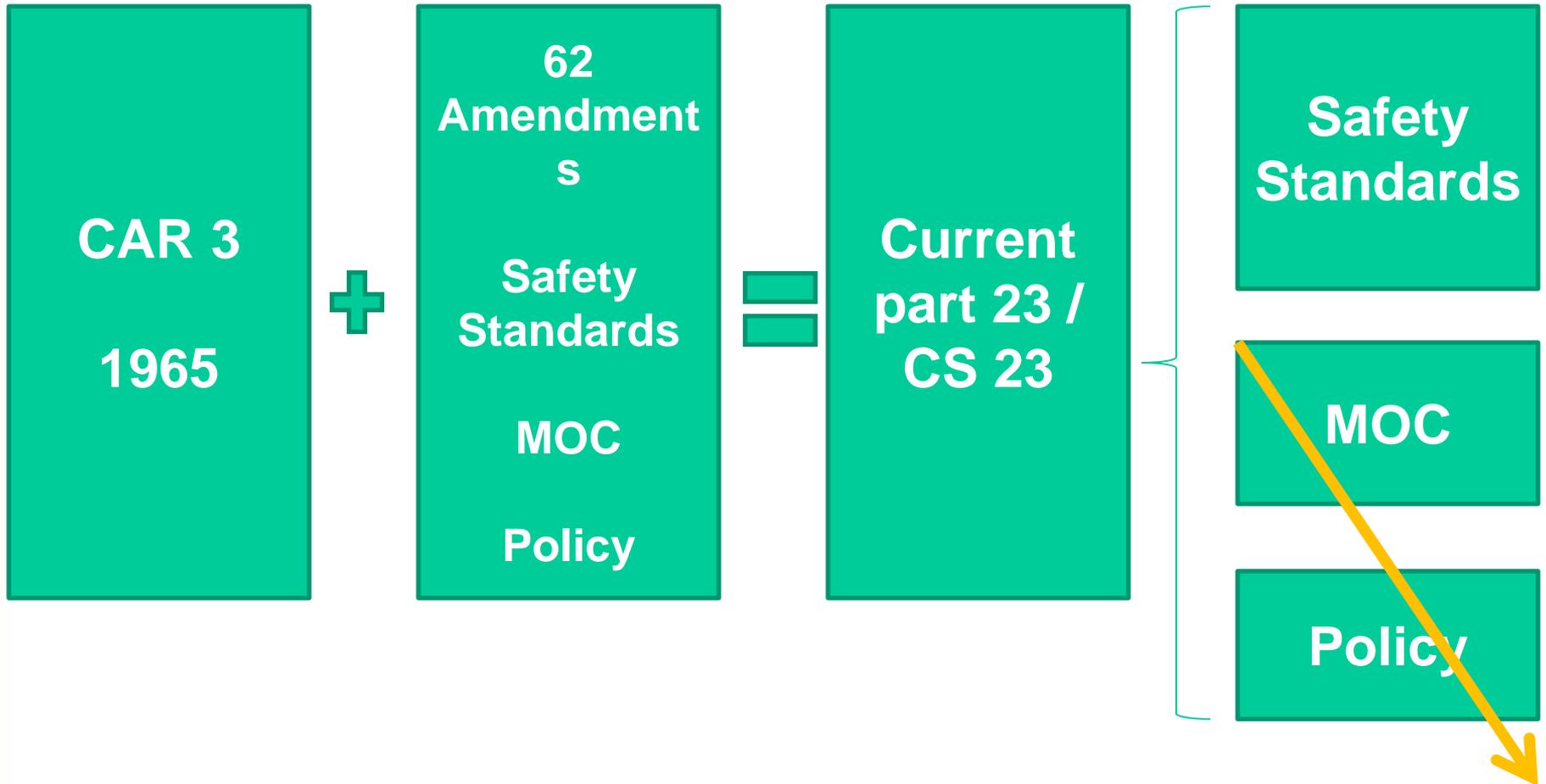
# Part 23 ARC: Two-step process

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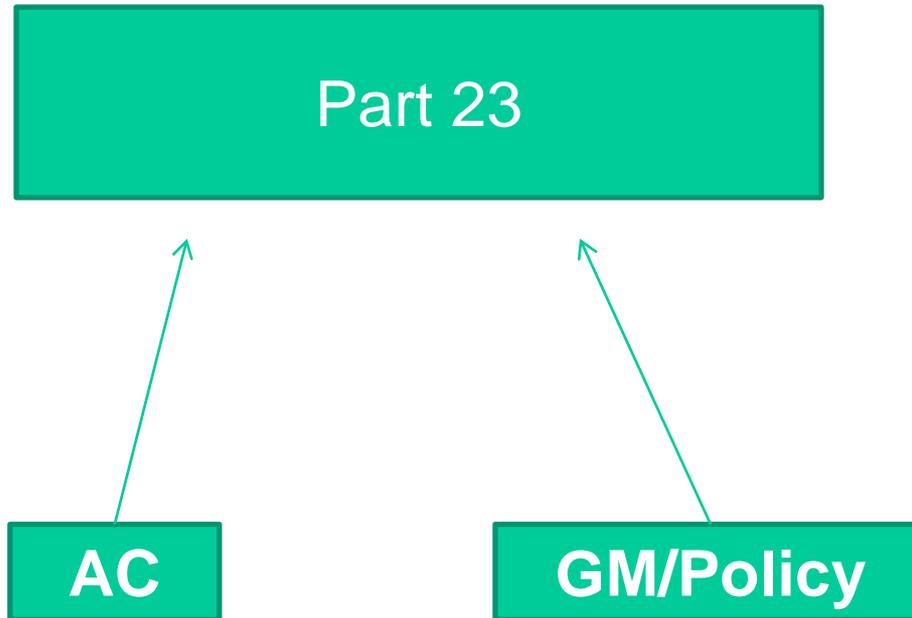
- Clean up part 23
- Develop “consensus” standards to replace Advisory Circulars



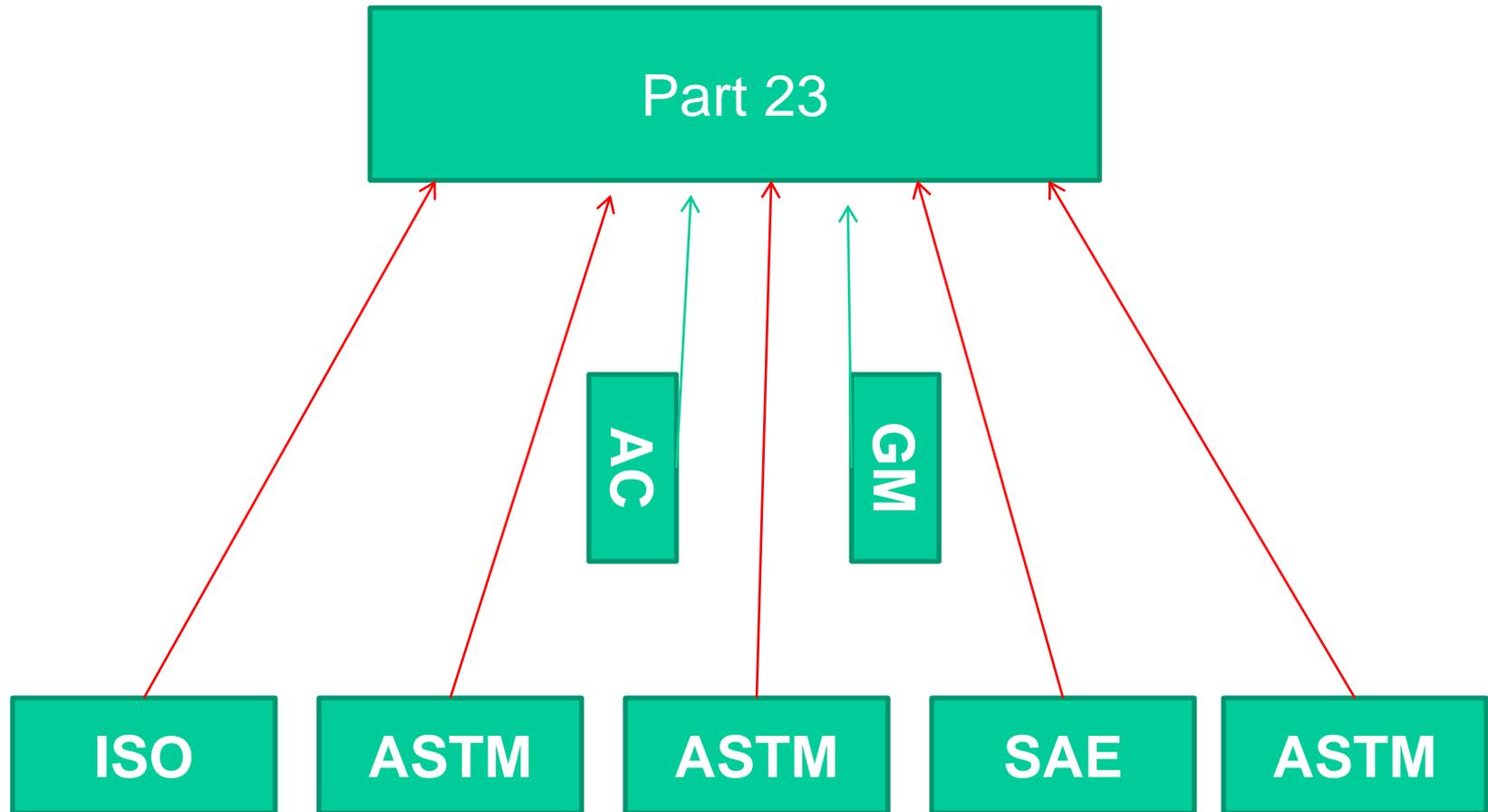
# Clean up part 23



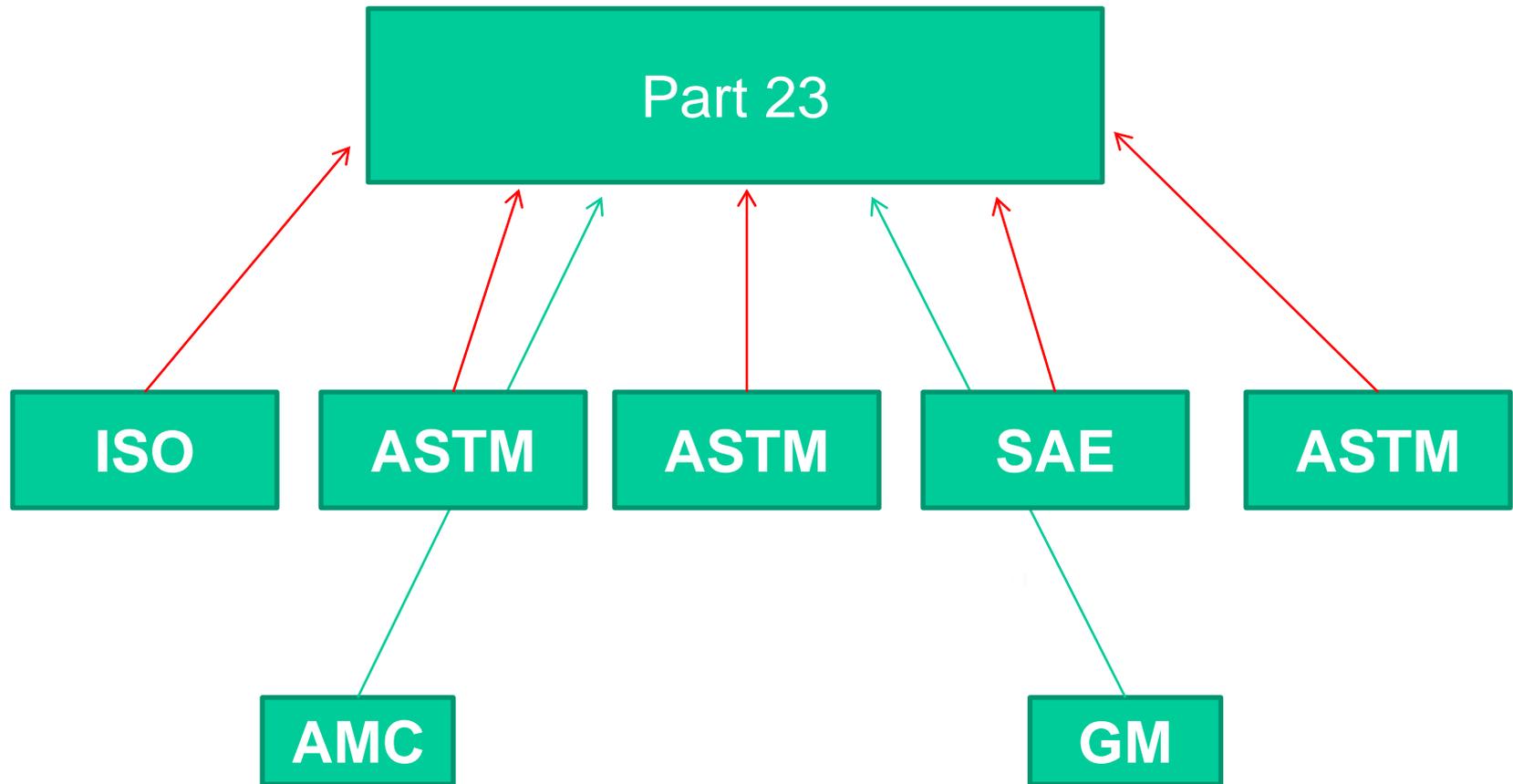
- Future part 23 contains:
  - Performance based Safety Standards
- Current Policy and Guidance in Rules migrate to AC/Policy
- Design Standards/AMC – Industry Standards (ASTM/SAE/ISO)



# Consensus Standard MOC



# Consensus Standard MOC



# Part 23 Rewrite (non-part 23)

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- Part 21
- Part 35
- Part 43
- Part 91
- Part 121
- Part 135

# FAA Memo No.: AIR100-14-110-PM01

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- February 5, 2014
- Approval of Non-Required Angle of Attack (AoA) Indicator Systems

## § 21.9 Replacement and modification articles.

Proposed	Current
<p>(a) * * *</p> <p>(5) Produced by an owner or operator for maintaining or altering that owner or operator's product;</p> <p>(6) Fabricated by an appropriately rated certificate holder with a quality system, and consumed in the repair or alteration of a product or article in accordance with part 43 of this chapter; or</p> <p>(7) Produced in any other manner approved by the FAA.</p>	<p>(a)</p> <p>(5) Produced by an owner or operator for maintaining or altering that owner or operator's product; or</p> <p>(6) Fabricated by an appropriately rated certificate holder with a quality system, and consumed in the repair or alteration of a product or article in accordance with part 43 of this chapter.</p>



## Appendix E to Part 43—Altimeter System Test and Inspection

Proposed	Current
<p>Each person performing the altimeter system tests and inspections required by § 91.411 must comply with the following:</p> <p>(a) * * *</p> <p>(2) Perform a proof test to demonstrate the integrity of the static pressure system in a manner acceptable to the Administrator. For airplanes certificated under part 25 of this chapter, determine that leakage is within the tolerances established by § 25.1325.</p>	<p>Each person performing the altimeter system tests and inspections required by § 91.411 shall comply with the following:</p> <p>(a) * * *</p> <p>(2) Determine that leakage is within the tolerances established in § 23.1325 or § 25.1325, whichever is applicable.</p>



## § 91.205 Instrument and equipment requirements.

Proposed	Current
<p>* * * * *</p> <p>(b) * * *</p> <p>(13) An approved safety belt with an approved metal-to-metal latching device, or other approved restraint system for each occupant 2 years of age or older.</p>	<p>(b)</p> <p>(13) An approved safety belt with an approved metal-to-metal latching device for each occupant 2 years of age or older.</p>

## § 91.205 Instrument and equipment requirements.

Proposed	Current
<p>* * * * *</p> <p>(b) * * *</p> <p>(14) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness or restraint system for each front seat. For small civil airplanes manufactured after December 12, 1986, an approved shoulder harness or restraint system for all seats. Shoulder harnesses installed at flightcrew stations .....</p>	<p>(b)</p> <p>(14) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness for each front seat. <del>The shoulder harness must be designed to protect the occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in § 23.561(b)(2) of this chapter.</del> Each shoulder harness installed at a flight crewmember station must .....</p>



## § 91.313 Restricted category civil aircraft: Operating limitations.

Proposed	Current
<p>(g) No person may operate a small restricted-category civil airplane manufactured after July 18, 1978, unless an approved shoulder harness or restraint system is installed for each front seat.</p>	<p>(g) No person may operate a small restricted-category civil airplane manufactured after July 18, 1978, unless an approved shoulder harness is installed for each front seat. <del>The shoulder harness must be designed to protect each occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in § 23.561(b)(2) of this chapter.</del></p>

## § 91.205 Instrument and equipment requirements.

Proposed	Current
<p>* * * * *</p> <p>(b) * * *</p> <p>(13) An approved safety belt with an approved metal-to-metal latching device, or other approved restraint system for each occupant 2 years of age or older.</p>	<p>(b)</p> <p>(13) An approved safety belt with an approved metal-to-metal latching device for each occupant 2 years of age or older.</p>

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**PROPOSED**

**PART 23—AIRWORTHINESS  
STANDARDS: NORMAL  
CATEGORY AIRPLANES**

- **Subpart A—General**

- 23.1 Applicability and definitions.
- 23.5 Certification of normal category airplanes.
- 23.10 Accepted means of compliance.

- **Subpart B—Flight**
  - **Performance**
  - 23.100 Weight and center of gravity.
  - 23.105 Performance data.
  - 23.110 Stall speed.
  - 23.115 Takeoff performance.
  - 23.120 Climb requirements.
  - 23.125 Climb information.
  - 23.130 Landing.



- **Subpart B—Flight**
  - **Flight Characteristics**
  - 23.200 Controllability.
  - 23.205 Trim.
  - 23.210 Stability.
  - 23.215 Stall characteristics, stall warning, and spins.
  - 23.220 Ground and water handling characteristics.
  - 23.225 Vibration, buffeting, and high-speed characteristics.
  - 23.230 Performance and flight characteristics requirements for flight in icing conditions.



- **Subpart C—Structures**

- 23.300 Structural design envelope.
- 23.305 Interaction of systems and structures.

- **Subpart C—Structures**

- **Structural Loads**

- 23.310 Structural design loads.

- 23.315 Flight load conditions.

- 23.320 Ground and water load conditions.

- 23.325 Component loading conditions.

- 23.330 Limit and ultimate loads.



- **Subpart C—Structures**
  - **Structural Performance**
  - 23.400 Structural strength.
  - 23.405 Structural durability.
  - 23.410 Aeroelasticity.

- **Subpart C—Structures**
  - **Design**
  - 23.500 Structural design.
  - 23.505 Protection of structure.
  - 23.510 Materials and processes.
  - 23.515 Special factors of safety.

- **Subpart C—Structures**
  - **Structural Occupant Protection**
  - 23.600 Emergency conditions.

- **Subpart D—Design and Construction**
  - 23.700 Flight control systems.
  - 23.705 Landing gear systems.
  - 23.710 Buoyancy for seaplanes and amphibians.

- **Subpart D—Design and Construction**
  - **Occupant System Design Protection**
  - 23.750 Means of egress and emergency exits.
  - 23.755 Occupant physical environment.

- **Subpart D—Design and Construction**
  - **Fire and High Energy Protection**
  - 23.800 Fire protection outside designated fire zones.
  - 23.805 Fire protection in designated fire zones.
  - 23.810 Lightning protection of structure.



## Subpart E—Powerplant

- 23.900 Powerplant installation.
- 23.905 Propeller installation.
- 23.910 Powerplant installation hazard assessment.
- 23.915 Automatic power control systems.
- 23.920 Reversing systems.
- 23.925 Powerplant operational characteristics.
- 23.930 Fuel system.
- 23.935 Powerplant induction and exhaust systems.
- 23.940 Powerplant ice protection.
- 23.1000 Powerplant fire protection.

- **Subpart F—Equipment**

- 23.1300 Airplane level systems requirements.
- 23.1305 Function and installation.
- 23.1310 Flight, navigation, and powerplant instruments.
- 23.1315 Equipment, systems, and installations.
- 23.1320 Electrical and electronic system lightning protection.
- 23.1325 High-intensity Radiated Fields (HIRF) protection.

- **Subpart F—Equipment**

- 23.1330 System power generation, storage, and distribution.
- 23.1335 External and cockpit lighting.
- 23.1400 Safety equipment.
- 23.1405 Flight in icing conditions.
- 23.1410 Pressurized system elements.
- 23.1457 Cockpit voice recorders.
- 23.1459 Flight data recorders.

- **Subpart G—Flightcrew Interface and Other Information**
  - 23.1500 Flightcrew interface.
  - 23.1505 Instrument markings, control markings and placards.
  - 23.1510 Airplane flight manual.
  - 23.1515 Instructions for continued airworthiness.

- Appendix A to Part 23—Instructions for Continued Airworthiness



TITLE 14—Aeronautics and Space

CHAPTER I—FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

SUBCHAPTER C—AIRCRAFT

<i>Part</i>	<i>Table of Contents</i>	<i>Headings</i>
21	21.1 to 21.700	CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS
23	23.1 to 23.1589	AIRWORTHINESS STANDARDS: NORMAL, UTILITY, ACROBATIC, AND COMMUTER CATEGORY AIRPLANES



- **Subpart D—Design and Construction**
  - 23.700 Flight control systems.
  - 23.705 Landing gear systems.
  - 23.710 Buoyancy for seaplanes and amphibians.

## Subpart D—DESIGN AND CONSTRUCTION

§23.601	General.
§23.603	Materials and workmanship.
§23.605	Fabrication methods.
§23.607	Fasteners.
§23.609	Protection of structure.
§23.611	Accessibility provisions.
§23.613	Material strength properties and design values.
§23.619	Special factors.
§23.621	Casting factors.
§23.623	Bearing factors.
§23.625	Fitting factors.
§23.627	Fatigue strength.
§23.629	Flutter.

# Current -- § 23.3 Airplane categories.

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- (a) The normal category is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for nonacrobatic operation.  
Nonacrobatic operation includes:
  - (1) Any maneuver incident to normal flying;
  - (2) Stalls (except whip stalls); and
  - (3) Lazy eights, chandelles, and steep turns, in which the angle of bank is not more than 60 degrees.



# Current -- § 23.3 Airplane categories.

---

- (b) The utility category is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for limited acrobatic operation. Airplanes certificated in the utility category may be used in any of the operations covered under paragraph (a) of this section and in limited acrobatic operations. Limited acrobatic operation includes:
  - (1) Spins (if approved for the particular type of airplane); and
  - (2) Lazy eights, chandelles, and steep turns, or similar maneuvers, in which the angle of bank is more than 60 degrees but not more than 90 degrees.



# Current -- § 23.3 Airplane categories.

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- (c) The acrobatic category is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for use without restrictions, other than those shown to be necessary as a result of required flight tests.

# Current -- § 23.3 Airplane categories.

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- (d) The commuter category is limited to multiengine airplanes that have a seating configuration, excluding pilot seats, of 19 or less, and a maximum certificated takeoff weight of 19,000 pounds or less. The commuter category operation is limited to any maneuver incident to normal flying, stalls (except whip stalls), and steep turns, in which the angle of bank is not more than 60 degrees.

# Current -- § 23.3 Airplane categories.

---

- (e) Except for commuter category, airplanes may be type certificated in more than one category if the requirements of each requested category are met.



# Current -- § 23.3 Airplane categories.

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- Normal category
- Utility category
- Acrobatic category
- Commuter category



## § 23.5 Certification of normal category airplanes.

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- (a) Certification in the *normal category* applies to airplanes with a passenger-seating configuration of 19 or less and a maximum certificated takeoff weight of 19,000 pounds or less.

# § 23.5 Certification of normal category airplanes.

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- (b) Airplane certification levels are:
  - (1) Level 1—for airplanes with a maximum seating configuration of 0 to 1 passengers.
  - (2) Level 2—for airplanes with a maximum seating configuration of 2 to 6 passengers.
  - (3) Level 3—for airplanes with a maximum seating configuration of 7 to 9 passengers.
  - (4) Level 4—for airplanes with a maximum seating configuration of 10 to 19 passengers.



# § 23.5 Certification of normal category airplanes.

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- (c) Airplane performance levels are:
  - (1) Low speed—for airplanes with a VC or VMO  $\leq$  250 Knots Calibrated Airspeed (KCAS) (and MMO  $\leq$  0.6).
  - (2) High speed—for airplanes with a VC or VMO  $>$  250 KCAS (or MMO  $>$  0.6).



## § 23.5 Certification of normal category airplanes.

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- (d) Simple—Simple is defined as a level 1 airplane with a VC or VMO  $\leq 250$  KCAS (and MMO  $\leq 0.6$ ), a VSO  $\leq 45$  KCAS and approved only for VFR operations.

## § 23.5 Certification of normal category airplanes.

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- (e) Airplanes not certified for aerobatics may be used to perform any maneuver incident to normal flying, including—
  - (1) Stalls (except whip stalls); and
  - (2) Lazy eights, chandelles, and steep turns, in which the angle of bank is not more than 60 degrees.

## § 23.5 Certification of normal category airplanes.

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- (f) Airplanes certified for aerobatics may be used to perform maneuvers without limitations, other than those limitations necessary to avoid damage or injury.

## § 23.10 Accepted means of compliance.

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- (a) An applicant must show the FAA how it will demonstrate compliance with this part using a means of compliance, which may include consensus standards, accepted by the Administrator.
- (b) A person requesting acceptance of a means of compliance must provide the means of compliance to the FAA in a form and manner specified by the Administrator.



# Consensus-Based Standards

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- The FAA anticipates that individuals or organizations would develop acceptable means for complying with the proposed performance standards.

# Consensus-Based Standards

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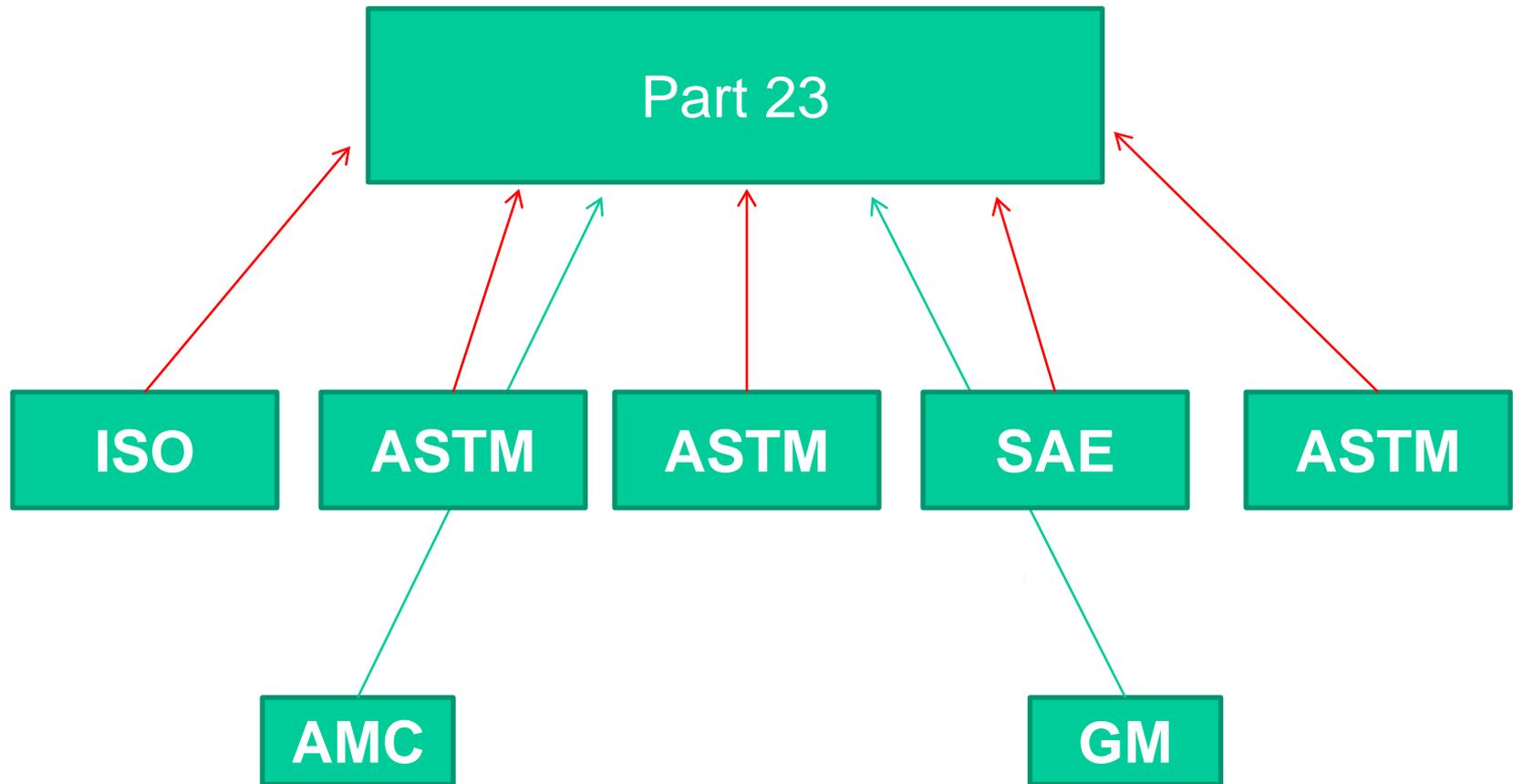
- A standards organization such as ASTM, for example, could generate a series of consensus-based standards for review, acceptance, and public notice of acceptance by the FAA.

# Consensus-Based Standards

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- The ASTM standards could be one way, but not the only way, to demonstrate compliance with part 23.
- Other consensus standard bodies such as RTCA and SAE are currently focused on developing standards for aircraft components and appliances.

# Consensus Standard MOC



# ASTM Aviation Committees

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- F-37: LSA
- F-38: UAS
- F-39: Aircraft Systems
- F-44: General Aviation Aircraft

- F2490-05(2013) Standard Guide for Aircraft Electrical Load and Power Source Capacity Analysis
- F2639-07e1 Standard Practice for Design, Alteration, and Certification of Airplane Electrical Wiring Systems
- F2696-08 Standard Practice for Inspection of Airplane Electrical Wiring Systems
- F2799-09 Standard Practice for Maintenance of Airplane Electrical Wiring Systems

# F39.03 on Design of Avionics Systems

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- F3011-13 Standard Specification for Performance of Angle of Attack System

## Proposed New Standards

- WK43957 New Specification for Validation and Verification of Systems Containing Software
- WK44700 New Specification for Airspeed Indication
- WK44701 New Specification for altitude indication
- WK44702 New Specification for fuel quantity indication



# F44 General Aviation Aircraft



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## F44 General Aviation Aircraft

Below is a listing of the published ASTM technical committee F44 on General Aviation Aircraft standards which are made available for read-only access. If you have any questions or suggestions for revisions to the content, please visit [www.astm.org/ASK\\_ASTM/index.html](http://www.astm.org/ASK_ASTM/index.html) to submit your request. If you would like to join the technical committee as a participating member please visit [www.astm.org/MEMBERSHIP](http://www.astm.org/MEMBERSHIP).

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[ASTM F3060-15b Standard Terminology for Aircraft](#)

[ASTM F3061/F3061M-16 Standard Specification for Systems and Equipment in Small Aircraft](#)

[ASTM F3062/F3062M-15 Standard Specification for Installation of Powerplant Systems](#)

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AIRCRAFT ELECTRONICS  
ASSOCIATION

# ASTM Standards

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[www.ASTM.org](http://www.ASTM.org)



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# Part 23

## Notice of Proposed Rulemaking (NPRM)

*<http://www.regulations.gov>*

*Docket No.: FAA-2015-1621*

Comments must be submitted before May 13, 2016.



- What else is going ON in Washington ??????



# Maintenance of EAB Aircraft

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- In answering a question posed by the AEA, whether a certificated repair station may perform maintenance, described in part 43 and required by §§ 91.411 & 91.413, on experimental aircraft.

# Maintenance of EAB Aircraft

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- FAA stated that “Furthermore, because part 145 specifically does not apply to certain experimental aircraft, neither does the prohibition in § 145.201(b), that no repair station may "maintain or alter any article for which it is not rated .... ”
- In other words, if an experimental aircraft, or a component of an experimental aircraft, is outside the scope of part 145, then § 145.201(b) does not prohibit a repair station from performing maintenance on that aircraft or component.”



# Maintenance of EAB Aircraft

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- The FAA concluded that “We have identified no FAA regulations, including § 145.201(b), that would prohibit a certificated repair station from performing maintenance for an owner or operator who seeks to bring an experimental aircraft into compliance with §§ 91.411 & 91.413.

# Bilateral Aviation Safety Agreement

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- FAA Pens Agreement to Promote Mutual Recognition of Aircraft Parts and Components throughout North America and Across the Atlantic.



# Bilateral Aviation Safety Agreement

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- Change 5 to the Maintenance Annex Guidance of the EU/FAA BASA
- Some of the most noteworthy changes include:
  - Changes to the MAG shall be implemented, as applicable, within 90 days after the effective date of the change.
  - There is a new provision for Aircraft Repair Station Security.
  - Traceability: For U.S. OEMs and PC holders, the BASA now requires documentation of release must be on the FAA Form 8130-3 as a new part.



## Federal Aviation Administration

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### Memorandum

Date: MAR - 2 2016

To: See Distribution List

From: *MG* Margaret Gilligan, Associate Administrator for Aviation Safety, AVS-1  
THRU: John S. Duncan, Director, Flight Standards Service, AFS-1 *JSD*  
*FOR* THRU: Dorenda Baker, Director, Aircraft Certification, AIR-1 *SymCable*

Prepared by: James Marks, ADS-B Focus Team Lead, AFS-360, (202) 267-1707

Subject: Installation Approval for ADS-B OUT Systems

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**After initial approval, can applicable ADS-B OUT systems be installed on aircraft not covered by that approval?**

Yes, ADS-B OUT systems that have previously received FAA approval and meet all of the following conditions may be installed and returned to service on other aircraft without further data approval:

## HOWEVER:

- 10 Criteria – including FAA Form 337
- Must have relationship with STC holder
- ALL deviations must be addressed.

***FAA HQ has not distributed the policy – yet!!***



# Field Approval Job Aid

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- FAA changed the Major Repair Alteration Data Approval Job Aid contained within FAA Order 8900.1

This is a dynamic document that changes without NOTICE

# Safety Assurance System

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- The FAA Flight Standards Safety Assurance System (SAS) for repair stations seems to be fully implemented at this point.
- The AFS Safety Assurance System (SAS) is the combination of people, processes, and technology that will be AFS' safety assurance capability.
- Beginning in 2015, the AFS SAS will be the new oversight system for 14 Code of Federal Regulations (CFR) part 145 repair stations as well as parts 121 and 135 operators. Ultimately, SAS will be used for other applicable CFR parts.



# Safety Assurance System

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**PLEASE BE PATIENT**

# Questions?

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