Aircraft Parts Distribution Regulations and ASA-100 Quality Standards

Forte International

Delegation from Zhengzhou University of Aeronautics

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Aviation Suppliers Association

Topics

- Who is ASA?
- What sort of regulations apply to the production of aircraft parts?
- What sort of regulations apply to the installation of aircraft parts?
- What is Distributor Accreditation?
- How does ASA help make Distributor Accreditation work?

Aviation Suppliers Association Safety Focus

- Non-profit trade association representing those who buy and sell aircraft parts

- Promote a safe, accessible, aftermarket supply chain
- Interface with government authorities (e.g. ANAC, CAAC, EASA, FAA, TCCA, etc.)
- Global reach – our members are on every continent except Antarctica

ASA, Quick Statistics…

- 650 Members
- 366 ASA-100 facilities
- 100+ ASACB Clients
- Annual Conference
  - 295 conference attendees in 2018
- Regulatory workshops scheduled for 2019
  - Chicago, Dallas, London, Los Angeles, Miami, Singapore
- Two dangerous goods certification classes
- Online training is coming soon

ASA Board of Directors Illustrates the Diversity of the ASA Community

Company	Director
A J Walter Aviation Limited	Nicole Wright
Air Canada	Grace Regillo
Air Parts & Supply Company (APSCO)	Kerry Crowley
Airborne Maintenance & Engineering Services, Inc.	Barry Allen
Aircraft Inventory Management & Services, Ltd.	Brent Webb
Aviation Suppliers Association	Michele Dickstein
Boeing	John Sidorek
Delta TechOps	Reynaldo Roche
Global Airtech	Adam Chimulan
Infinity Air, Inc.	Jimmy Wu
International Aircraft Associates, Inc.	Mitch Weinberg
Satair, an Airbus Services company	John Gattasse
TSI Aviation, Inc.	Lee Kapel
Vx Consultants, Inc.	Mary Wanke

Aviation Suppliers Association Quality Assurance Focus

- ASA helps distributors meet the highest quality standards
  - ASA audits companies to the ASA-100 standard
  - ASA audits companies to the AS9100, AS9110, and AS9120 standards
  - ASA manages the AC 00-56B database of accredited distribution companies
  - ASA teaches compliance classes, like compliance to international dangerous goods shipping standards, documentation standards, export standards, etc.
  - ASA publishes guidance to help support safety
  - ASA holds an annual meeting to share information and to foster business relationships (**July 14-16, 2019 in Montreal, Quebec, Canada**)

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We'll come back to these auditing and accreditation elements, as they are important to ensuring a robust system

The Regulatory Lifecycle of an Aircraft Part under FAA and EU Rules: From Approval to Installation

US and EU standards for production and installation of aircraft parts

What are Approved Parts?

- Generally, this means that the part has been produced under government approval:
  - Design Approval
    - Applicant demonstrates to the government that the design meets all government requirements including airworthiness requirements
  - Production Approval
    - Applicant demonstrates to the government that the production quality assurance system will effectively produce products and/or parts that meet the requirements of the approved design

Approved Parts: Regulatory Standards

- 14 C.F.R. § 21.9 (a) If a person knows, or should know, that a replacement or modification article is reasonably likely to be installed on a type-certificated product, the person may not produce that article unless it is—
  - (1) Produced under a type certificate;
  - (2) *Produced under an FAA production approval;*
  - (3) A standard part (such as a nut or bolt) manufactured in compliance with a government or established industry specification;
  - (4) A commercial part as defined in §21.1 of this part;
  - (5) Produced by an owner or operator for maintaining or altering that owner or operator's product; or
  - (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.

FAA Repair Station Obligation: Correct Procedures

- **§43.13(a) Performance rules (general).**
- (a) Each person performing maintenance, alteration, or preventive maintenance on an aircraft, engine, propeller, or appliance shall use the methods, techniques, and practices prescribed in the current manufacturer's maintenance manual or Instructions for Continued Airworthiness prepared by its manufacturer, or other methods, techniques, and practices acceptable to the Administrator, except as noted in §43.16. He shall use the tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry practices. If special equipment or test apparatus is recommended by the manufacturer involved, he must use that equipment or apparatus or its equivalent acceptable to the Administrator.

FAA Repair Station Obligation: Airworthiness

- **§43.13(b) Performance rules (general).**
- (b) Each person maintaining or altering, or performing preventive maintenance, shall do that work in such a manner and use materials of such a quality, that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness).

US Aircraft Parts System Summary

- Most manufacturers must have government design and production approval
- Installers must know that they are installing the rights parts to support airworthiness
- *But distribution of parts has been subject only to indirect regulation*

EU (EASA) Maintenance Organizations

- Under the EASA system, all maintenance is performed by 145s
  - No other entities have maintenance privileges
- EASA 145.A.42 imposes parts classification/segregation requirements

EASA Categories of Parts and Documents (from EASA 145.A.42 and AMC M.A.501(c))

Category	Must be accompanied by
Components which in a satisfactory condition	EASA Form 1 or equivalent
Unsalvageable components	Nothing – must be segregated and inspected/maintained
Standard parts	Conformity statement plus both the manufacturing and supplier source
Raw material and consumables	Documentation stating conformity and both the manufacturing and supplier source

EU (EASA) Maintenance Organizations

- Under the EASA system, all maintenance is performed by 145s
  - No other entities have maintenance privileges
- EASA 145.A.42 imposes parts classification/segregation requirements
  - Generally, most parts must have EASA Form 1 or equivalent (such as FAA 8130-3)
  - New Requirement: "establish procedures for the acceptance of components, standard parts and materials for installation to ensure that components, standard parts and materials are in satisfactory condition and meet the applicable requirements" EASA 145.A.42(b)(i).

What Does it Mean to "Establish Procedures"?

ED Decision 2019/009/R.

- "For the acceptance of components, standard parts and materials from suppliers, the [] procedures should include supplier evaluation procedures." *AMC1 145.A.42(b)(i)*, section (b).
- *GM3 145.A.42(b)(i)*
  - Establishes element for a suppliers' quality system
  - Permits reliance on suppliers known to meet standards
  - States that ASA-100 and AC 00-56 accreditation are acceptable
  - This means that an EASA 145 organization can rely on an accredited supplier, and does not have to perform its own evaluation

ASA, Safety, and Auditing

China can trust parts from ASA-100 accredited distributors

ASA Works as a Government Partner

- We've worked with EASA on rulemaking projects
  - Part 145 changes
  - EASA Form One instructions and layout
- We've worked with the FAA on:
  - ARAC projects like Part 43, Part 21 (parts and products) and Part 183 subpart D (ODA)
  - Aviation Rulemaking Committees, like global SMS, manufacturing SMS, and AIR Transformation
  - Documentation standards
  - TSOA, PMA and standard parts
- We've begin working with CAAC on sharing knowledge

ASA's Most Important Project

- Working with the authorities on global recognition of the Voluntary Industry Distributor Accreditation Program
  - FAA: AC 00-56
  - EASA: endorses AC 00-56 and ASA-100 in *GM3 145.A.42(b)(i)*
  - CAAC: endorsement discussions have begun, and will continue in Montreal this summer
- Accreditation is a means of supporting quality assurance standards

Distributor Accreditation – the Early Years

- FAA sponsored the AIR-DU committee
  - Air carriers
  - Repair stations
  - Manufacturers
  - Distributors
  - FAA and JAA
- AIR-DU developed the standards that were ultimately published in FAA AC 00-56 – purpose was to support safety through voluntary standards for distributors

Protecting Elements Identified by Customers as the Most Important to *Aviation Safety*

- The FAA worked with industry in the 1990s to establish standards for acceptable distributor quality systems; elements included topics like:
  - Training
  - Receiving inspection procedures
  - Segregation of discrepant material
  - Control of key factors, like shelf-life, technical data, inspection stamps, and measuring equipment
  - Packaging control to protect shipped parts
  - Environmental controls to protect stored parts
  - Documentation control and accountability
  - Self-audit as well as third party audit
  - Recall control and notification for both issues and system changes
- Elements have been adopted by EASA

FAA AC 00-56: Distributor Accreditation

- Published by the FAA September 1996
  - Rev. A released June 2002
  - Rev. B released May 2015
- http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_00-56B.pdf

- Requires compliance with both the AC elements and an external standard (like ASA-100)

- The Aviation Suppliers Association has been a significant promoter of this program, and of high quality standards within the program

European Analysis of AC 00-56

- In 2011-12, EASA formed a working group to study distributor accreditation (EASA Task 145.017)
  - Concluded that there was no need to create a new program, because the FAA AC 00-56B program was adequate to meet Europe's safety needs
- Recommended that maintenance facilities should control their parts sources, but that they could use distributor accreditation as a mechanism to accomplish this control
  - This resulted in a requirement for procedures for the acceptance of components - Commission Regulation (EU) 2018/1142
  - EASA Executive Decision 2019/009/R endorsed AC 00-56 and ASA-100

What Must an Accredited Distributors Do?

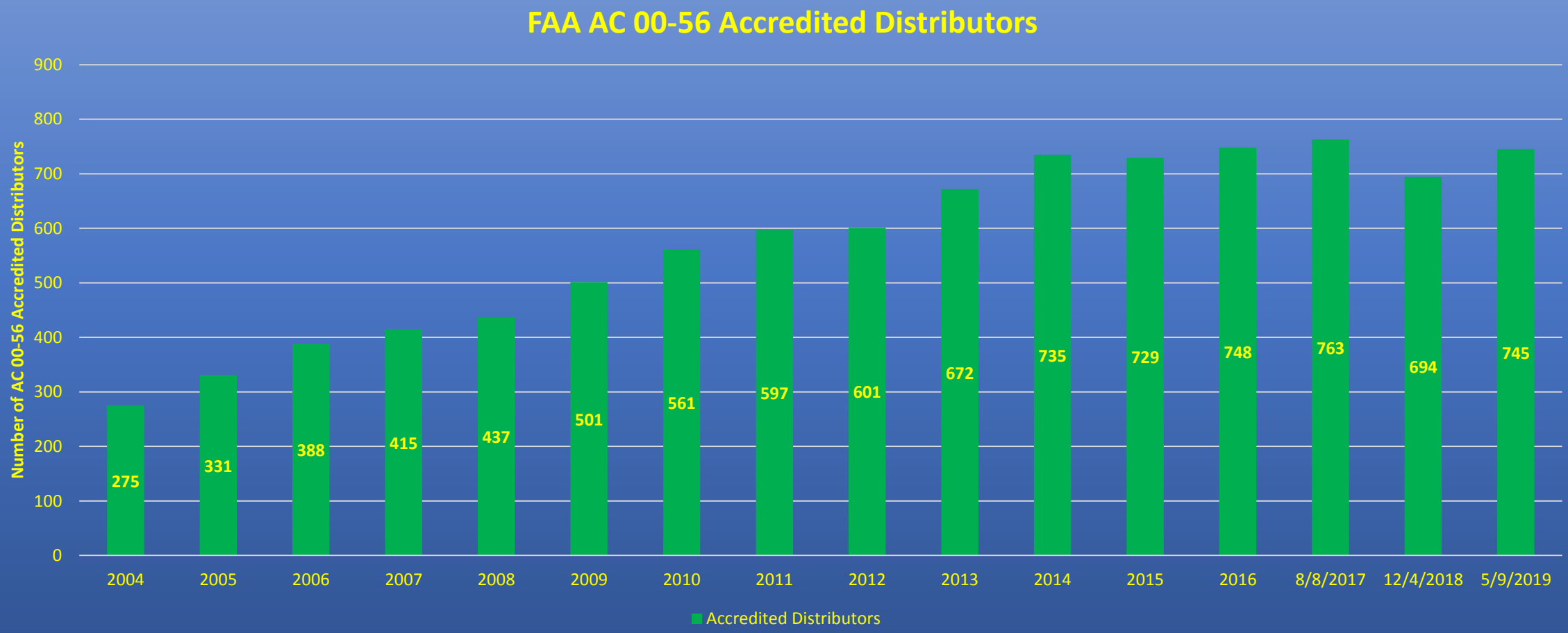
- Maintain a quality assurance system that meets the defined elements
  - Protects the airworthiness of the parts
- Limit receiving only to those parts that meet the inbound requirements of the documentation matrix
  - Ensures that parts have indicia of airworthiness
- Parts, when shipped, must meet the minimum standards of the documentation matrix
  - Supports aviation quality
- Maintain documentation for parts shipped
  - Permits an audit trail if there is a question

Airlines Rely on Distributor Accreditation

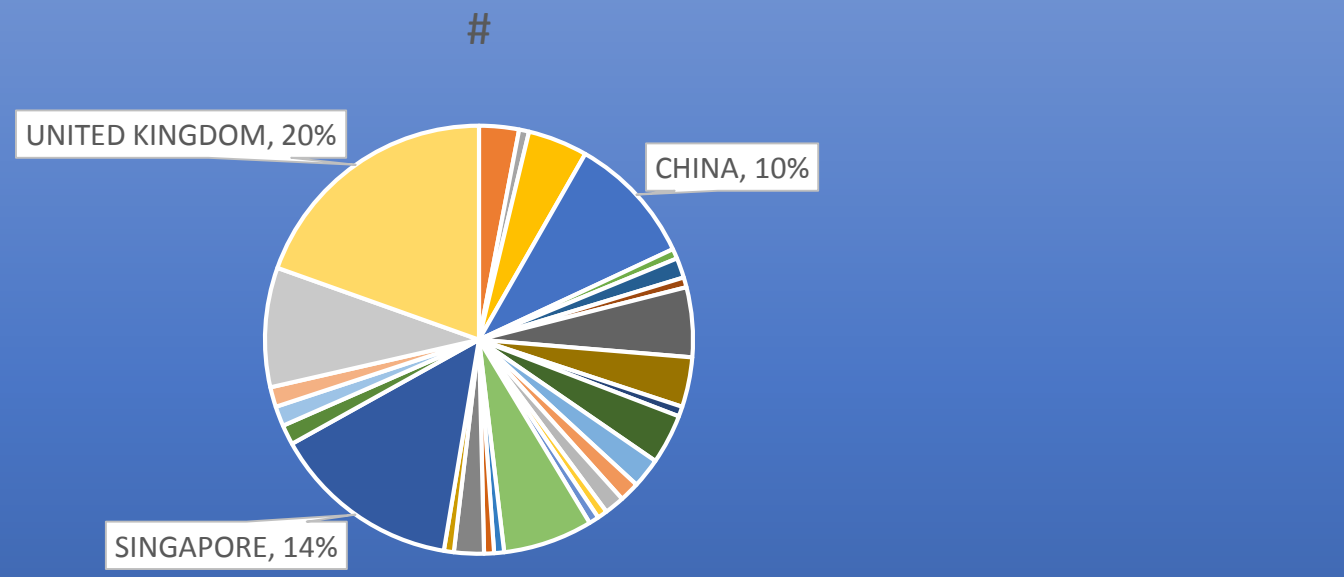
- Today, airlines around the world use the list of accredited companies as the starting point for their analysis of supply sources

- If you want to distribute aircraft parts into the global airline/MRO market, then distributor accreditation is an important credential

Growth of Distributor Accreditation



Non-US AC OO-56 Accredited Companies (133)



China – US Implementation Procedures for Airworthiness (IPA)

- October 2017 China – US Implementation Procedures for Airworthiness (IPA)
- Opens the U.S. market to Chinese PMA
  - Non-critical under Chinese cert. procedures, or
  - Critical and subject to either license or Chinese STC
- US distributor look forward to working with Chinese manufacturers!
  - The July 14-16 meeting in Montreal is an excellent networking opportunity for Chinese manufacturers to meet both aircraft parts distributors and end users

Opportunities to Get Involved

- ASA Annual Conference, July 14-16 in Montreal, Canada
  - July 13: Pre-conference training among the ASA auditors
    - Helps ensure coordination and uniformity
  - July 14: Quality Assurance Committee meeting
    - Discussing government affairs and technical industry issues
  - July 15-16: Educational conference with multiple concurrent workshops
    - FAA, TCCA, and CAAC will be on the program

Look for the ASA Logos When Choosing a Foreign Parts Distributor

ASA-100 Quality Assurance System

ASA Member

AS9100, AS9110 or AS9120 Quality Management Systems

Questions?

Please feel free to ask questions

Thank You

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