

PMA advantages:  
From Approved Parts to Bilateral  
Agreement

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# Ryan Aggergaard

- Washington, DC-based Attorney
- Representing
  - Aircraft manufacturers
  - Aircraft parts manufacturers
  - Aircraft parts distributors
  - Airlines
  - Repair Stations
- *Finding ways to make your transactions easier*

# Washington Aviation Group

- A boutique law firm serving the needs of the aviation community
- Since 1999, the Washington Aviation Group has
  - Provided transaction advice,
  - Enabled compliance through advice and systems development
  - Helped ensure reasonable standards through regulatory and policy lobbying , and
  - Defended clients in administrative, civil and criminal matters

# What are Approved Parts?

- *FAA: Approved* means:
  - Approved by the FAA or
  - Approved by any person to whom the FAA has delegated its authority in the matter concerned, or
  - Approved under the provisions of a bilateral agreement between the United States and a foreign country or jurisdiction
- *EASA: Requires that installers only receive new parts that meet documentation requirements*
  - Aside from certain exceptions (see EASA 145.A.42), these can only be obtained for EASA-approved parts
  - European Union signs bilateral agreements to accept foreign certificates, like the 8130-3

# 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 versus Airworthiness

- Approved parts are generally eligible for airworthiness documentation when new
- Approved parts that are used, but are demonstrated to be airworthy (e.g. upon overhaul) are generally eligible for approval for return to service documentation
  - But used parts are generally not eligible for import into Japan unless newly overhauled or rebuilt
- Airworthiness generally means:
  - Conforms to the airworthiness conditions of the government-approved configuration and
  - Is in a condition for safe operation
- An approved part can become un-airworthy through damage or degradation

# Approved Parts:

## FAA 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.

*Revised in 2009*

# Japan-US Bilateral Agreement

- Facilitates trade by defining categories of parts that each nation will accept from the other with no further showing
- Since November 29, 1977
- Major revision in 2009 added new categories of parts eligible for export/import



# Categories of “Approved” Parts

- Parts Manufacturer Approval (PMA)\*
- Technical Standard Order Authorization (TSOA)\*
- Type Certificate (TC) Only Parts\*
- Production Certificate (PC)\*
- BAA/BASA
- 14 C.F.R. § 21.8(d)
- Standard Parts\*
- Owner/Operator Produced Parts
- Repair Station Produced Parts and other Maintenance-Produced Parts

\* = Parts acceptable in Japan under the Japan-US bilateral

# Categories of “Approved” Parts

- Parts Manufacturer Approval (PMA)\*
  - Used to approve for replacement and modification aircraft parts
  - A hybrid approval in that both design and production are approved in a single document
  - Generally cannot be transferred, because production approval cannot be transferred

\* = Parts acceptable in Japan under the Japan-US bilateral

# US Government Approval of Design and Quality

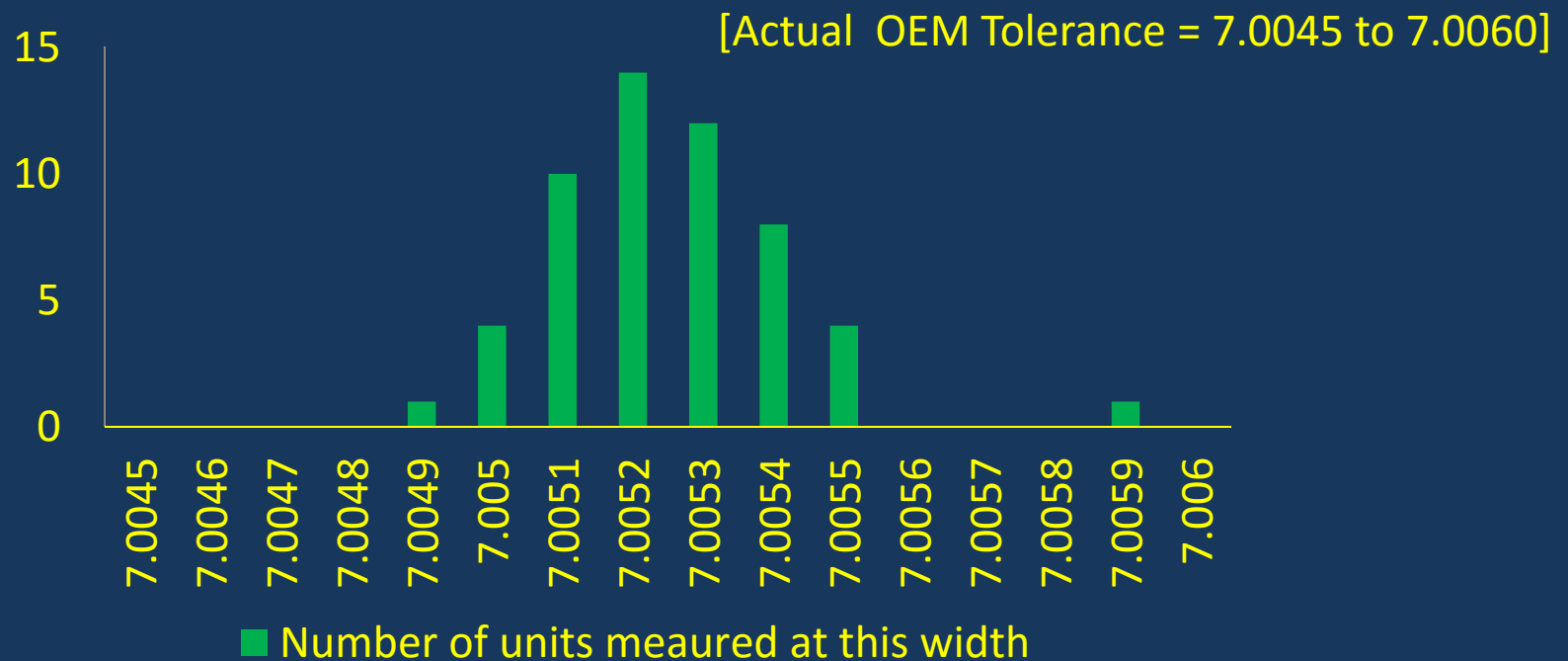
|                     | Requirements   | Notes  |
|---------------------|--|--|
| Production Approval | 21.307: Each applicant for or holder of a PMA must establish a quality system that meets the requirements of § 21.137 (production certificate system requirements) | PMA parts adhere to the same quality assurance regulations as production certificate parts   |
| Design Approval     | 21.303: Test reports and computations necessary to show that the design of the article meets the airworthiness requirements  | FAA approves the design of FAA-PMA parts. Tools for presenting the evidence to the FAA include identity, comparative analysis, etc. as discussed by Kato-san |
| Oversight           | FAA provides continuing oversight of PMA parts   |  |

# Why Companies Choose to Use PMA Parts

- PMA Parts:
  - Are approved to meet or exceed the standards for original parts
- And PMA parts may be:
  - Less expensive than their competitors – discounts can run up to 50% or more
  - More available – original parts can be out of stock or can have long lead times
  - More reliable – alternative manufacturers have an incentive to improve parts that do not meet reliability expectations
  - More safe - alternative manufacturers can redesign parts based on operational data to avoid flaws found in the original design
  - Sometimes the only alternative that is available

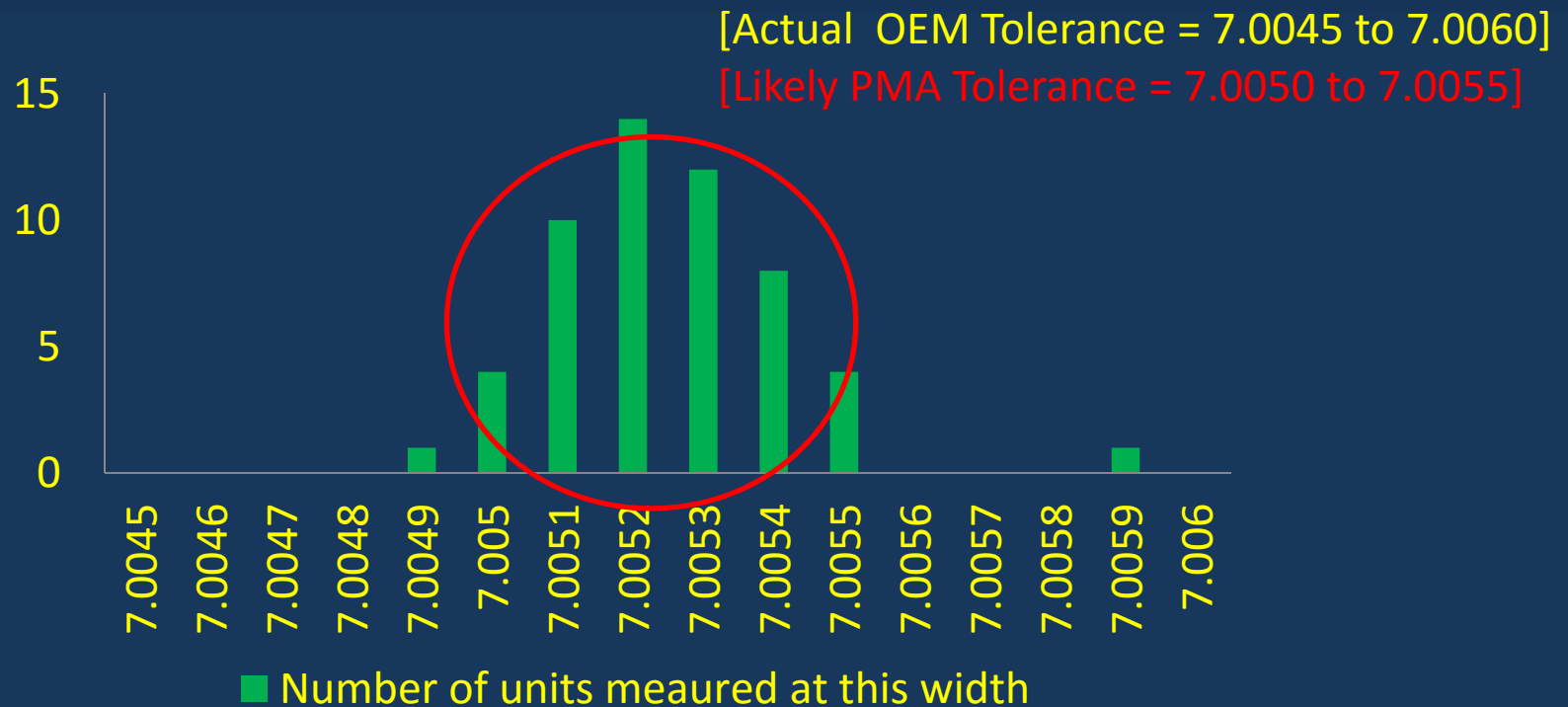
# PMA Part Reliability

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- Replacement PMA parts are generally built to tighter tolerances than OEM corollaries
- Replacement PMA parts are designed with knowledge of the operational history of OEM corollary parts
- Thus, it can be possible for PMA parts to be more reliable than their OEM competitors  
*[any design differences must be approved by the FAA]*

# Are PMAs Acceptable in Japan?

- JCAB accepts FAA-PMA parts from the US
  - Should include an 8130-3 tag
  - Must include the standard PMA markings
    - Part number
    - Manufacturer's name or trademark
    - Serial number for life-limited parts
  - Must include at least one installation eligibility (by model designation)



# Thank You

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