

# 2018 MARPA Conference



Federal Aviation  
Administration

## Parts Manufacturer Approval Policy Updates

Presented to: MARPA

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AIR-6C1

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# PMA Policy/Guidance

- **Order 8110.42D Change 1 – Sept 15, 2017**
  - Incorporate AIR100-17-110-PM07
    - Section 2-10 of 8110.42D, PMA Procedures, states that “*The drawings must specify a permanent and legible method of marking.*”
  - Change 1 and PM interpretation
    - Applicant must specify a permanent and legible method of marking
    - Detailed methodology of the marking can be identified in their quality control document, a controlled process specification, an engineering order, or other acceptable means as long as it has traceability, and is referenced in their PMA application package



# Proposed Order 8110.42D Change 2

- **Adjust for Air Transformation**
- **Incorporate previously issued policy memos and policy statements**
- **Clarify gray areas in existing policy**
- **Remove incorrect, out of date or duplicative material**
- **Schedule Goals**
  - Release for comments in Fall
    - Nothing is written in stone at this point
  - Issue by 1<sup>st</sup> Q FY2019

# Clarifies PMA as a New Article

- **Policy Statement PS-AIR-21-1601**
  - Approved: 6 October 2016
  - Subject: FAA Order 8110.42D, Parts Manufacturer Approval Procedures - Use of Parts Manufacturer Approval (PMA) for Minor Modification Articles on Products
- **PMA is acceptable when:**
  - No original article to replace, and
  - Does not introduce a major change in a product's type design
- **Approval only under test & comp**
- **Identified as modification articles in PMA supplement**



# PMA Kits

- **Policy Memo AIR100-14-110-GM26**
  - Issued April 14, 2014
- **“Kitting” – the combining of dissimilar articles together in a single packaging source**
- **“Kits” should not be approved under PMA (unless there’s a corresponding TC kit)**
- **Can approve PMA if replacing multiple TC parts with 1 integrated article**

# Subcomponents of PMA

- **PMA of a top assembly does not mean subassembly parts are interchangeable with OEM subcomponents.**
  - Subcomponents of an assembly PMA can only replace subcomponents of the PMA articles
  - To replace OEM subcomponents, applicant must obtain PMA for the subcomponents
  - Applicant must show the subcomponents are equivalent and include them on the PMA supplement

# Previously Approved PMA Data

- **Policy Memo AIR100-16-110-PM03**
  - Issued April 22, 2016
- **Sale of PMAs to new DAH require the new holder to submit new PMA application**
- **ACO “re-approvals” of purchased PMA data have caused PMA holders delays**
- **Use discretion when reviewing data packages**
- **Reasons to review previously approved data are**
  - Change in design
  - Non-compliances
  - Safety issues; such as SDRs or ADs

# PMA of Approved PMA

- **Clarify Test and Computation PMA based on an approved Test and Computation PMA**
  - PMA must be incorporated in the type design
  - Typically added to IPC as approved alternative
- **Allow for T&C PMA of a PMA article that is based on licensing agreement to TC holder or PMA of a PMA by STC**
  - Has direct tie to the type design



# PMA of TSOA sub-articles

- **Treat as typical PMA; however, need to ensure TSO article has been installed on a product**
  - Assess article against applicable airworthiness regulations
  - Identity with licensing agreement solely with TSO holder isn't a valid basis for Identity with a licensing agreement
- **Assess the applicant provided effects of the article on the minimum performance standards (MPS) of the applicable TSO**
  - Article can still be approved if it impacts the TSO assembly meeting the performance standards but must comply with airworthiness requirements
- **If the PMA impacts the TSO MPS, they should remove the TSO marking**

# Guidance on PMA of Base Material, Sealants & Consumables

- Industry received conflicting information
- Add section on PMAs of materials or sealants/consumables
- Possible if article is part of the type design and does not have major modifications prior to installation
  - Allowable Example: Cutting carpet roll into specific parts
  - Not allowed: Heat treat, machining, etc



# PMA markings

- **“...other FAA approved identification...”**  
*Ref: § 45.15(a) Marking Requirements*
  - Add example of “other acceptable” company name marking
    - Commercial and Government Entity (CAGE) Code
      - e.g., Boeing – 81205
    - A commonly recognizable abbreviation

# Clarify Eligibility Expansion

- **Assess -**
  - Eligibility evidence
  - Certification basis of the additional make and model
    - Ensure compliance showings and findings are still applicable
  - Potential changes in the articles function or safety assessment for the new make and model
- **If original certification basis not applicable -**
  - Request the applicant submit the applicable documentation or
  - Apply via a full application package

# Additional Updates

- **Clarify PMA of AD'd life limited part and need for AMOCs**
  - Currently could be interpreted as not possible
- **Additional considerations for Identicality w/o Licensing for life limited parts and use of identicality data in T&C application**
- **Additional testing requirements for T&C PMAs for life limited/critical parts**
  - Must know failure modes and show critical failure mode is equivalent to TC'd article
- **Use of “-XXX” suffix on PMA part number**
  - Allowed but must define scope of minor variations within “XXX”
- **Removal of DER and ODA guidance**

# Additional Updates (cont'd)

- **Emphasize differences between design changes (i.e. major/minor) for PMA articles vs. TCs**
  - PMA minor change - No appreciable effect on approval basis
  - Note difference with TC – No appreciable effect to product (Part 21 Subpart D)
- **Increased Guidance on Safety assessment and encourage using product safety assessment terminology in lieu of “Critical”**
  - Part 33 = Category 1, 2, 3
  - Parts 23, 25, 27, 29 = No safety effect, Minor, Major, Hazardous, Catastrophic
- **Add Method for surrendering a PMA - similar to STC**

# Additional Updates

- **PMA of subcomponents with no discernable article numbers**
  - Is possible and typical for small subassembly parts
  - For “Replacement for...” on supplement put either Modification Article or Assemblies P/N
  - Add note to “Replacement for...” column stating exactly what part it is a replacement for.
  - May need Supplemental ICA if typically replaced as whole assembly
- **Special Considerations for Articles made from Process Intensive Materials**
  - Example Materials: Forgings, Composites, Additively Manufactured Materials
  - Very difficult to accurately reverse engineer material
  - Limited ability to utilize Comparative Analysis
  - Should use Comparative testing or general analysis for compliance showings

# Additional Updates

- **Add consideration of article meeting more stringent operational requirements**
- **Additional information on possible acceptable means of showing eligibility**
  - technical drawings, purchase orders, service bulletins, maintenance manuals, technical publication indexes, master drawing lists, assist letters from aircraft owners or operators.
  - Removal of RGL use as sole eligibility information
- **Guidance on limiting eligibility to STCs or TC options**
- **Addition of International Considerations**



# EPSB Policy Activity

- **Statistics AC (AC 33-13)**
  - Went out for public comment several years ago.
    - The document has been reformatted and the content has been re-evaluated.
  - Should be going out for public comment again very soon.
  - Intent of this AC is to provide guidance on minimum sample sizes when defining parts based on OEM-produced parts.

# EPSB Policy Activity

- **Geometry AC**

- Ready for publication soon
- Need to verify one point of interaction with the Statistics AC.

- **Materials AC**

- Fairly significant revisions since public comments
- Expect to see something in 2019.

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