



EGYPTAIR

MAINTENANCE & ENGINEERING

**ECAR & EgyptAir Perspective on
PMA Parts & DER Repairs / Modifications**

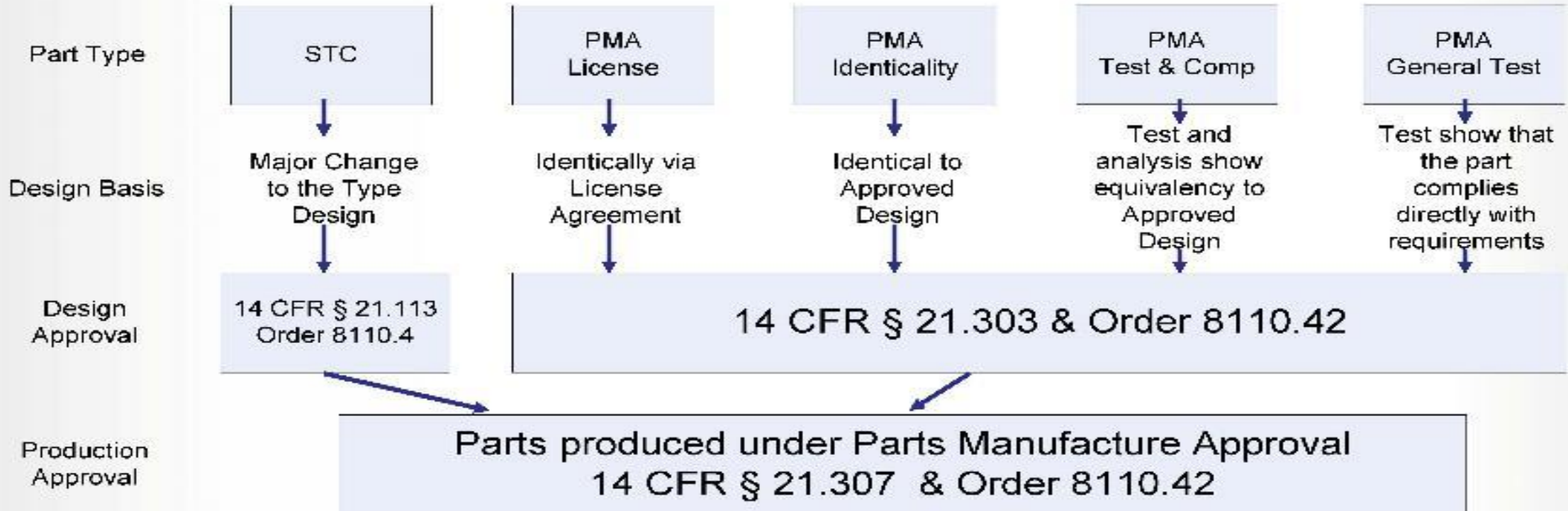
Introduction

Parts Manufacturing Approval (PMA)

- The FAA has a system of granting approval called Parts Manufacturing Approval (PMA). PMA is an FAA design and production approval that verifies that the design of an aircraft part meets FAA safety regulations, and the quality management system meets FAA quality standards designed to assure that every part actually produced continues to meet the FAA-approved design.
- The PMA holder is permitted to manufacture and supply aircraft parts to OEMs, repair stations and operators in lieu of parts being manufactured by the OEM, provided such parts manufacture has been approved by the FAA. Use of such parts does not in any way affect the airworthiness of the aircraft since these parts are manufactured under FAA approval. Often, PMA parts cost less than the OEM parts, yet PMA parts must meet or exceed the OEM part that it is replacing. The PMA parts are identified as a direct replacement to the OEM's part number and approved for the same aircraft effectivity.

Introduction

Types of PMA



Introduction

Designated Engineering Representative (DER)

- FAA DER (Designated Engineering Representative) are private persons or persons within an approved organization who have been given authorizations to perform certain certification functions on behalf of the FAA. These authorizations are granted based on a person's knowledge and experience in a particular field of aviation, such as aircraft manufacturing, aircraft engineering, or aircraft maintenance.
- DER's are very specialized and are given authorizations to perform approvals of the data (instructions) used to make certain modifications or repairs to aircraft.
- DER repairs save airlines thousands of dollars per repair. This process puts these costly parts back into the Aircraft at a much lower cost.

ECAR Perspective on PMA & DER

ECAR Perspective on PMA

- ECAR Part 21 Subpart K “Approval of Materials, Parts, Processes, and Appliances” :
21.403 Replacement and modification parts.
(d) An applicant is entitled to a Parts Manufacturer Approval for a replacement or modification part if :
 - (1) ECAA find, upon examination of the design and after completing all tests and inspections, that the design meets the airworthiness requirements of the Egyptian Civil Aviation Regulations applicable to the product on which the part is to be installed; and*
 - (2) He submits a statement certifying that he has established the fabrication inspection system required by paragraph (h) of this section.*
- According to ECAR regulation above, ECAA will only accept PMA Parts if the production organization complies with the above regulation.
- ECAA is currently limiting the acceptance of PMA Parts to non-Critical parts only.

ECAR Perspective on PMA & DER

ECAR Perspective on DER

- ECAR Part 43 “Maintenance, Preventive Maintenance, And Alterations”

43.17 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 manufacturers’ maintenance manual or instructions for continued airworthiness prepared by its manufacturer, or other methods, techniques and practices acceptable to the ECAA.*
- According to ECAR regulation above, In case of Major Repairs ECAA will only accept repairs / modifications stated in the OEM maintenance manuals or instructions for continued airworthiness prepared by the OEM or instructions issued by approved design organizations (DER Organization). In case of Minor repairs, ECAA may accept using instructions approved by DER individual / Consultant.
- For DER Approved Repairs / Modifications, ECAA will study and assess each proposed Repair / Modification on case by case basis.

EgyptAir Perspective on PMA & DER

EgyptAir Perspective as Operator

- As an operator, EgyptAir realizes the benefits of PMA Parts and DER Repairs and modifications on its aircraft maintenance costs. However, EgyptAir approaches these types of parts and repairs with caution as there are several constraints of using them, such as:
 - Limitations of using PMA Parts and DER Repairs in ECAR Regulations
 - Risk of losing warranty claims from the OEMs due to the use of PMA Parts and DER Repairs on their products
 - Aircraft Leasing agreement requirements
- Currently EgyptAir limits the use of non-licensed PMA Parts for certain aircrafts and non-critical cabin parts only.
- EgyptAir studies DER repairs on a case-by-case basis and continuously communicates with ECAA regarding the approval of such repairs

EgyptAir Perspective on PMA & DER

EGME Perspective as MRO

- As a Maintenance & Repair Organization, EGME hold the approval of several Aviation Authorities. Each of these Authorities has its own perspective and limitations regarding PMA & DER.
- Normally, EGME uses only the Maintenance instructions Issued by OEMs, and installs only the part numbers stated in these instruction.
- In the cases where EGME customer requests to install PMA part or use a DER approve repair / modification, EGME request from its customers to get a no objection statement or approval from his Authority before implementing the required work.



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Thank You