



FAA DER APPROVED MODIFICATIONS Repairs & Alterations & New EASA TIP

March 13th 2013
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FAA DERT / RS-DER /
DARF

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- The audience is responsible to confirm that all data, relative to FAA regulatory information presented are current.
- FAA data may be obtained on WWW.RGL.FAA.GOV



ABOUT THE PRESENTER

DOMINICK P DACOSTA

FAA DERT / RS-DER / DARF

Delegated Areas: Chart A [Structures], Chart B [Powerplant], Chart C1 [Mechanical Systems], and Chart E [Engines]

Special Delegated Areas: Major Repairs Multiple Use, Major Alterations, PMA Identity, Repair Specifications authority Chart B, C1, E.

Education & Training: BSE, AGS, SET, NDE

- California Coast University – [MFG. Engineering]
 - Ohio State University [Welding Engineering & NDE]
 - Indiana University – AGS Physics
 - Kings Aeronautical Institute – Aeronautical Powerplant
 - ICET-NSPE – Senior Engineering Technologist
- Former Assignments: GEAE, Lycoming, Bendix, Teledyne



What is a DER?

- A **DER** [Designated Engineering Representative] are individuals who meet the requirements of 14 CFR Part 183, and order 8100.8.
- The **DER** designation covers discipline specialties as defined in Order's 8100.8, and 8110.37.
- These **DER** delegations are defined by charts

10 Areas

Chart A, DER Structural
Chart B, DER Powerplant Installations.....
Chart C1, DER Systems and Equipment.....
Chart C2, DER Systems and Equipment (Electrical Equipment)
Chart D, DER Radio.....
Chart E, DER Engines.....
Chart F, DER Propellers.....
Chart G, DER Flight Analyst
Chart H, DER Flight Test Pilot
Chart I, DER Acoustical.....



Delegated DER Disciplines

(1) Structural engineering,

Chart A

(2) Powerplant engineering,

(3) Systems and equipment engineering,

Chart C1 & C2

(4) Radio engineering,

(5) Engine engineering,

Chart E

(6) Propeller engineering,

(7) Flight analyst,

(8) Flight test pilot, and

(9) Acoustical engineering.



DER CHART A

2-5. DER Designations.

a. Structural DERs may approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

- (1) Engineering reports,
- (2) Drawings,
- (3) Material and process specifications used in structural applications, and
- (4) Other data relating to structural considerations.

Mtrls &
Process

Let's look at the DER Chart A layout



Appendix B. Delegated Functions and Authorized Areas

Figure 1. Chart A, DER Structural

Functions and areas that can be authorized are defined by white squares. Each DER's authority may be different, and is identified in their letter of appointment.

	AUTHORIZED AREAS															
	Structural-General (1)	Structural-Wing Group	Structural-Fuselage Group	Structural-Emppennage Group	Structural-Landing Gear	Structural-Flight Controls	Structural-Rotor	Loading Control Documents	Metallic Materials (2)	Nonmetallic Materials (3)	Interior Arrangements	Interior Materials	Fire Protection	Evacuation Systems	Door Systems	Special (Specify)
DELEGATED FUNCTIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1. STATIC ANALYSIS																
2. DYNAMIC ANALYSIS																
3. FATIGUE ANALYSIS																
4. DESIGN AND CONSTRUCTION																
5. FLUTTER/GROUND VIBRATION																
6. SAFETY ANALYSIS																
7. FLOTATION & DITCHING ANALYSIS																
8. STRUCTURAL LOADING LIMITATIONS																
9. SERVICE DOCUMENTS																
10. MATERIAL & PROCESS SPEC.																
11. FLAMMABILITY																
12. DAMAGE TOLERANCE EVALUATIONS																

Note (1): Includes all airframe components: wing, fuselage, empennage, landing gear, flight controls, engine mounts, and special components. Does not apply to rotors.

Notes (2) and (3): Select Specialty by Note number and sub-letter from lists below. General applies to all processes listed.

(2) Metallic Materials/Processes

- A - Materials & Processes - General
- B - Non-Destructive Inspection/Testing
- C - Metallurgy
- D - Metal Joining Processes
- E - Structural Adhesives
- F - Mechanical Fasteners
- G - Surface Treatment/Coatings
- H - Bearings

(3) Nonmetallic Materials/Processes

- A - Material & Processes - General
- B - Transparent (Glazed) Material
- C - Polymeric Materials
- D - Structural Adhesives
- E - Mechanical Fasteners
- F - Composites
- G - Non-Destructive Inspection/Testing
- H - Surface Treatment & Coatings
- I - Structural Joining Methods



Figure 2. Chart B, DER Powerplant Installations:

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

		AUTHORIZED AREAS					
		Airplane Turbine Engine	Airplane Piston Engine	Rotocraft Turbine Engine	Rotocraft Piston Engine	Auxiliary Power Unit (APU)	Special (Specify)
DELEGATED FUNCTIONS		A	B	C	D	E	F
1	ENGINE INSTALLATION						
2	FUEL & OIL						
3	INDUCTION/EXHAUST SYSTEMS						
4	THRUST REVERSERS						
5	FIRE PROTECTION						
6	ICE PROTECTION						
7	COOLING						
8	ENGINE PERFORMANCE/OPERATIONS						
9	INDICATING SYSTEMS						
10	LIGHTNING/HIRF PROTECTION						
11	SOFTWARE						
12	CONTROL SYSTEM - ELECTRONIC						
13	CONTROL SYSTEM - MECHANICAL						
14	EMISSIONS						
15	VIBRATION - ENGINE, PROPELLER, OR DRIVE SYSTEM						
16	PROPELLER						
17	DRIVE SYSTEM						
18	TRANSMISSIONS						
19	SAFETY ANALYSIS						
20	SERVICE DOCUMENTS						



Figure 3. Chart C1, DER Systems and Equipment (Mechanical Equipment)

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

Mechanical Systems C1

		AUTHORIZED AREAS													
		Air Conditioning	Hydraulic	Ice Protection	Rain Protection	Oxygen	Pneumatics	Wheels, Tires, and Brakes	Interior Arrangements	Interior Materials	Pressurization	Fire Protection	Water System, Potable and Waste	Evacuation Systems	Special (Specify)
DELEGATED FUNCTIONS		A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	DETAIL DESIGN AND INSTALLATION														
2	EQUIPMENT QUALIFICATION TESTS														
3	SOFTWARE														
4	SAFETY ANALYSIS														
5	FLAMMABILITY														
6	LIGHTNING/HIRF PROTECTION														
7	SERVICE DOCUMENTS														



Figure 4. Chart C2, DER Systems and Equipment (Electrical Equipment)

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

Electrical Systems C2

		AUTHORIZED AREAS											
		Electrical Equipment/Systems	Electronic Equipment/Systems	Communications Systems/Antennas	Automatic Flight Controls/Avionics	Instruments	Navigation Systems/Antennas	Air Data/Pilot Static	Warning Systems	Interior/Exterior Lighting	Flight Data/Voice Recording	Passenger Address/Entertainment	Special (Specify)
DELEGATED FUNCTIONS		A	B	C	D	E	F	G	H	I	J	K	L
1	DETAIL DESIGN AND INSTALLATION												
2	EQUIPMENT QUALIFICATION TESTS												
3	SOFTWARE												
4	SERVICE DOCUMENTS												
5	ELECTRICAL LOAD ANALYSIS												
6	SAFETY ANALYSIS												
7	LIGHTNING/HIRF PROTECTION												



Figure 6. Chart E, DER Engines

Functions and areas that *can* be authorized are defined by *white squares*. Each DER's authority may be different, and is identified in their letter of appointment.

		AUTHORIZED AREAS		
		Turbine Engines	Piston Engines	Special (Specify)
DELEGATED FUNCTIONS		A	B	C
1	DETAIL DESIGN			
2	BLOCK TESTS			
3	PERFORMANCE CHARACTERISTICS			
4	VIBRATION ANALYSIS			
5	OPERATION MANUALS			
6	OVERHAUL MANUALS			
7	SERVICE DOCUMENTS			
8	EXHAUST EMISSIONS EVALUATION			
9	SOFTWARE			
10	SAFETY ANALYSIS			
11	LIGHTNING/HIRF PROTECTION			



What is a DER? [Cont]

- **DER's** can also be granted additional special delegations that are identified in Order 8110.37 [DER Handbook]. These special delegations are not part of the DER basic authority areas. These are:

Approval of Service Documents. -----
DER International Operating Procedures. -----
PMA Identity Procedures. -----
Repairs and Alterations. -----
Repair Specifications (RS). -----
Flammability Testing of Interior Materials. -----



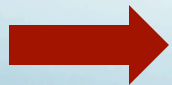
Which FAA branch appoints DER's

- Aircraft Certification Office which is has primary responsibility for engineering and design aspects of any airworthiness data.
- Additional shared responsibilities with Organizational Designees [A/R's] are shared with FAA MIDO for new ODA-TC/PMA designs. And with FAA FSDO for ODA-M/R.



What types of data can the DER approve?

- Repairs, Alterations and other data approved by a Designated Engineering Representative (DER or RS-DER) of the FAA ACO.
- Alternate means of compliance (**AMOC**) {Ref 14 CFR Part 39}
- Evaluation of repair design data against the same FAA regulations used to issue the aircraft TC (i.e., Part, 23, 25, 33)
- DER issues FAA Form 8110-3 which defines applicability, limitations and supplemental ICA for the repair.
- Repair is executed to FAA Approved Data [ACO/DER] under the oversight of the cognizant FSDO of the applicant.



The Modifications must be as good as or better than the TC design! [14 CFR 1.1]



FAA Organizational Structure

FAA Headquarters

AEG

MIDO

Manufacturing
Inspection
District Office
NEW PARTS

- TC
- PMA
- TSO

Functions

ACO

Aircraft
Certification
Office

All Engineering

- TC
- STC
- PMA
- AMOC

FSDO

Flight Standards
District Office
Maintenance

- FAR 121, 125
- FAR 129/135
- FAR 145
- FAR 65

Simplified for clarity

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FAA ACO

- ALL Engineering Aspects
 - Design Approvals for all 14 CFR Part 21 Products/Articles
 - ✧ TC /Amended TC
 - ✧ STC
 - ✧ PMA
 - ✧ TSO
 - ✧ Repairs /Alterations
- Designee & Organizational Oversight
 - DERT, DERY, RS-DER
 - ODA /TC/STC/TSO/PMA & MR



FAA FSDO

- **Maintenance Aspects**

- Repairs
- Alterations
- Rebuilds
- Overhauls

- **Airworthiness Rules**

- FAR 65 – Repairmen/Mechanics/Inspection Authorization
- FAR 43 – Performance Rules
- FAR 145 – Repair Stations / ODA MR
- FAR 121, 125, 129, 135 operators
- ODA MR Oversight & DART Designees



FAA MIDO

- **New Manufacturing & Conformity Inspections Aspects**
 - Oversight of Production Approval Holders [PAH]
 - ✧ TC Holders
 - ✧ PC Holders
 - ✧ PMA PAH
 - ✧ TSO PAH
- **Oversight & Designees**
 - ODA TC/PC/PMA/TSO, & DARF/DMIR



Basic Regulatory Framework

New
Aircraft
TC

- ACO approves design data showing compliance to FAA requirements (i.e., Part 21, and 23, or 25, 27, 29 etc)

Aircraft
Production
System

- MIDO approves the Fabrication Inspection System to ensure manufacturing compliance to approved design data

Continued
Airworthiness

- FSDO ensures Instructions for Continued Airworthiness (ICA) are properly implemented and executed (e.g., SRM's; , SB, AMM, ESM, CMM's)

Alternate Means of Compliance 14 CFR Part 39 (AMOC) can be used, BUT, must meet the FAA mandated AD requirements or show ELOS.



FAA Delegation & Oversight Summary

Areas	MIDO	ACO	FSDO	AEG
DER Approval	X	X	X	*
TC/OEM Repairs		X	X	X
PMA/TSO/TC Parts	X	X		X*
PAH Alterations		X	X	*
New AWL		X	X	X

➔ Repairs, whether OEM or DER Approved, are dictated by the same regulations & branches of the FAA [ACO/FSDO/AEG]

➔ New Spares, whether OEM or PMA, are dictated by the same regulations & branches of the FAA [ACO/MIDO/AEG]

* May be req'd



Why are DER Repairs of Interest?

- Improved part availability
- Lower Part Replacement cost
- Using service experience, design improvements can be implemented to improve part performance (e.g., reliability, weight reduction)
- On Wing Service is extended

Avoid scrapping hard to replace and/or expensive parts



DER Repair – V2500 Ducting



Engine Anti-Ice & Starter Ducts
Courtesy Exotic Metals

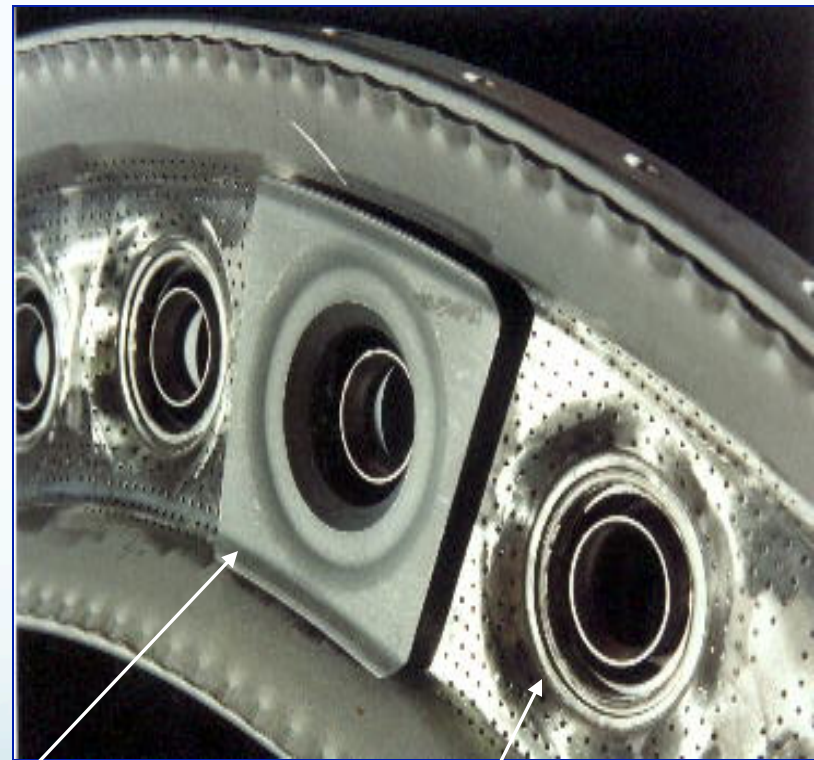
- Typical defects:
 - Chafing, Dents, Cracking
- Problem:
 - CMM has limited repairs
 - Ducts are \$25K-\$90K to replace and have long lead times
- Solution:
 - FAA DER Approved Repair



Example of a DER Alternative Repair with a Locally Mfg Part – Non-Book Repair

- 1. A Nozzle SPAD is locally produced, by the repair facility.**
- 2. The damaged area is cut out**
- 3. The new SPAD is welded in place**
- 4. The SPAD & weld is blended**
- 5. The weld repair is NDT Inspected**
- 6. The new SPAD is laser drilled for air cooling holes.**
- 7. The Combustor dome is air flowed and re-inspected to OEM Stds.**
- 8. Repair data is FAA DER approved, in accordance to AC 43-18 Chg 1**

A Non-book repair of a Combustor



SPAD

REPAIR



Duct DER Approval Process

Create Repair Plan

- Section replacement
- Dent removal
- Weld repair

Identify Applicable Part Design Chapters

- 25.301 [Loads]; 25.303 [Factor of Safety]; 25.305 [Strength]; 25.307 [Structure] and others...

Substantiate Proposed Repair

- Stress Analysis
- Weld samples & Elongation Testing
- Comparative Analyses
- Inspection criteria (weld x-ray)

Need for Supplemental ICA/AWL?

- Use existing CMM, SRM, or AMM



Submitted
to FAA (DER
& RS-DER)



FAA Approved Data

8110-3 Form

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

IDENTIFICATION

DER REPAIR No:

EM-

092806-1 Rev.

E Dated

November 24,
2009

V2500 Ducts P/N

740-5121-511

740-5121-505

740-5121-507

740-5121-509

740-5122-501

745-5122-503

740-5172-505

740-5173-507

740-5151-513

745-5151-501

745-5151-503

740-5183-501

740-5183-503

740-5166-501

740-5152-507

745-5152-501

745-5152-503

740-5169-501

740-5153-507

745-5153-501

745-5153-503

740-5060-505

740-5051-503

740-5051-505

740-5059-503

740-5059-505

740-3101-501

740-3101-507

END

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

NOVEMBER 26, 2009

DER REPAIR No: 092806-1 Rev. E Dated November 24, 2009

V2500 Ducts P/N 740-5121-511, 740-5121-505, 740-5121-507, 740-5121-509, 740-5122-501, 745-5122-503, 740-5172-505, 740-5173-507, 740-5151-513, 745-5151-501, 745-5151-503, 740-5183-501, 740-5183-503, 740-5166-501, 740-5152-507, 745-5152-501, 745-5152-503, 740-5169-501, 740-5153-507, 745-5153-501, 745-5153-503, 740-5060-505, 740-5051-503, 740-5051-505, 740-5059-503, 740-5059-505, 740-3101-501, 740-3101-507

APPLICABLE REQUIREMENTS (List specific sections)

25.1 [Applicability], 25.301 [Loads], 25.303 [Factor of safety], 25.305 [Strength and deformation], 25.307 [Proof of structure], 25.603 [Materials], 25.605 [Fabrication methods], 25.607 [Fasteners], 25.609 [Protection], 25.611 [Access], 25.613 [Material strength properties and design], 25.901 [Installation~Powerplant], 25.1091 [Air Induction], 25.1301 [Equipment & Systems], 25.1309(a) [Equip & Install].

STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

NOVEMBER 26, 2009

DER REPAIR No: 092806-1 Rev. E Dated November 24, 2009

V2500 Ducts P/N 740-5121-511, 740-5121-505, 740-5121-507, 740-5121-509, 740-5122-501, 745-5122-503, 740-5172-505, 740-5173-507, 740-5151-513, 745-5151-501, 745-5151-503, 740-5183-501, 740-5183-503, 740-5166-501, 740-5152-507, 745-5152-501, 745-5152-503, 740-5169-501, 740-5153-507, 745-5153-501, 745-5153-503, 740-5060-505, 740-5051-503, 740-5051-505, 740-5059-503, 740-5059-505, 740-3101-501, 740-3101-507

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered, Page 2, have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

☐ Recommend approval of these data*

I (We) Therefore

☒ Approve these data**

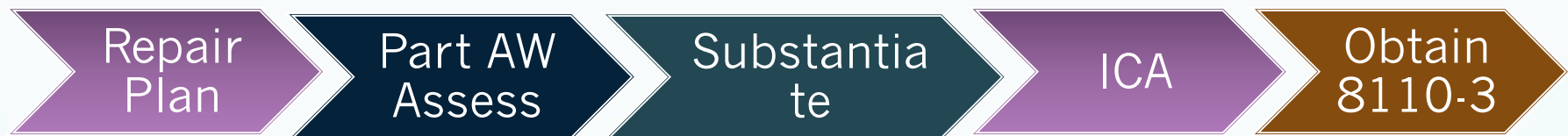
SIGNATURE (S) OF DESIGNATED ENGINEERING REPRESENTATIVE (S)	DESIGNATION NUMBERS (S)	CLASSIFICATION (S)
Dominick P. DeCosta	DERT-410000-CE	ENGINES, STRUCTURES, C1 SYSTEMS, & POWERPLANT

The repair is now approved and shown to be as good as or better than the original TC product



DER Approval Process

- Essentially the same as for the duct example

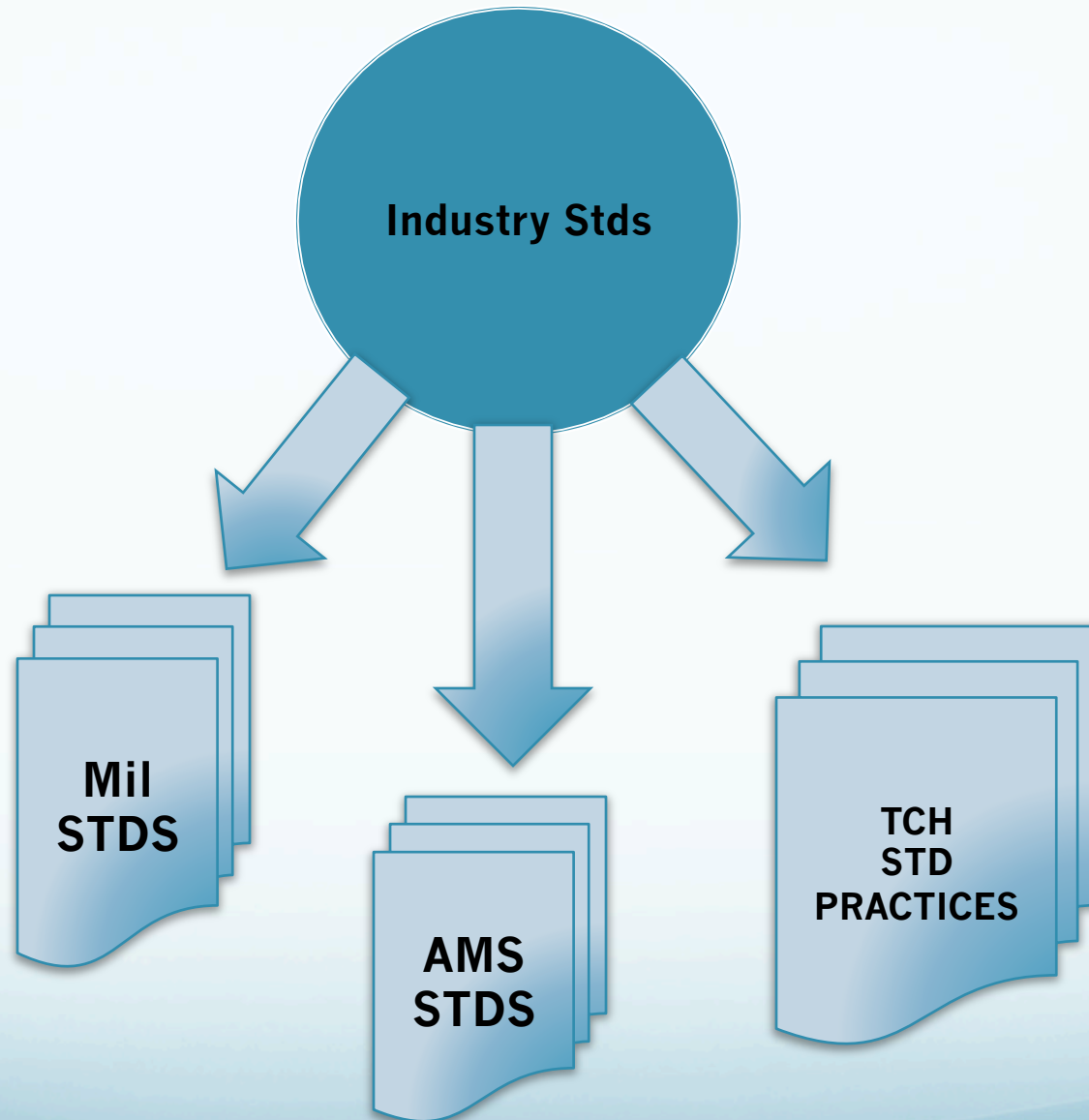


- In this case design improvements were made to address service difficulties (frequent removals due to cracking)



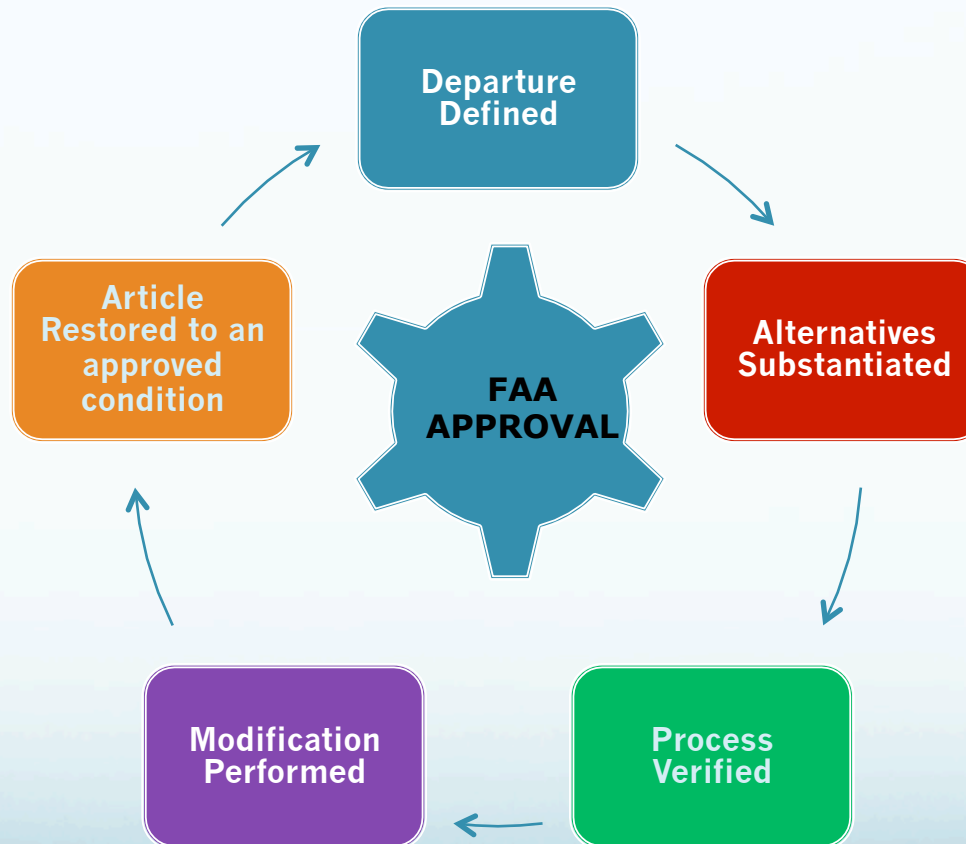
DEVELOPING A NON-BOOK REPAIR







Modification Process Flow





What Rules Apply to MRP's?

Much depends on WHO is accomplishing the Modification Replacement Part tasks!

- **Repair Stations: 14 CFR Part(s) 43.13, CFR Part(s) 21.303, 21.8, and the specific product design rules [i.e. Part 25, Part 33 etc.], Order(s) 8110.4C, 8110.42C, 8110.37E, 8900.1, 8100.13, 8110.54, AC 33.2b, AC 43 -18 Chg 1, AC 33 -9 Repair, AC 23.1309-1C, AC 25.1309-1A, AC 25.571, AC 33.75-1, AC 20-62D, & AC 120-77]**



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

AC No: 33-9

Date: 4/30/10
Initiated by: ANE-110

Subject: Developing Data for Major
Repairs of Turbine Engine Parts

1. Purpose.

a. This advisory circular (AC) provides information and guidance on developing technical data needed for major repairs of critical and complex turbine engine parts. Guidance will help persons developing major repair data meet the requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 43 to restore the engine to at least original or properly altered condition. However, the engine on which the repaired part remains airworthy and in compliance with the applicable regulations. For engines and parts, the applicable requirements are Airworthiness Standards for Powered Airplanes (14 CFR part 33) and Fuel Venting and Exhaust Emissions Requirements for Airplanes (14 CFR part 34).

b. Additionally, this AC provides guidance to assist persons developing a continued operational safety plan. It also helps persons recover from accidents and incidents prior to making repairs.

2. Applicability.

a. This AC provides guidance to all persons making major repairs for critical or complex turbine engine parts on supplemental type certificate (STC) holder.

b. This guidance is neither mandatory nor a regulation. It describes acceptable methods of compliance that a person developing a repair must follow. The words "shall," "may," and "must" are used to indicate the method of compliance where applicable. While these guidelines are not mandatory, persons with experience in determining compliance should become aware of circumstances that



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Fabrication of Aircraft Parts by
Maintenance Personnel

Date: 2/29/08
Initiated by: AFS-300

AC No: 43-18
Change: 1

1. PURPOSE.

a. This advisory circular (AC) ensures that parts fabricated during maintenance and alteration have an equivalent level of safety as those parts produced under the original design holder's production certificate. This AC provides one means of complying with the requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 21 and part 43 for the design and fabrication of parts by persons performing maintenance and alterations using methods, techniques, and practices acceptable to the Administrator. As required by regulation, such parts fabrication and their implementation must be accomplished "in such a manner...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."

b. This AC is not mandatory and does not constitute a regulation. It is issued for guidance and to outline one method of compliance with the rules. In lieu of following, without deviation, the method prescribed herein a person may elect to follow an alternative method, provided the Federal Aviation Administration (FAA) finds the alternative method to be an acceptable means of complying with the applicable requirements of 14 CFR.

2. RELATED CFR PARTS. Refer to the following 14 CFR regulations, generally applicable to satisfying or making a finding of compliance.

- Part 1, Definitions and Abbreviations.
- Part 21, Certification Procedures for Products and Parts.
- Part 23, Airworthiness Standards for Normal, Utility, Acrobatic, and Commuter Category Airplanes.
- Part 25, Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes.
- Part 27, Airworthiness Standards: Transport Category Airplanes.
- Part 29, Airworthiness Standards: Normal Category Rotorcraft.
- Part 31, Airworthiness Standards: Transport Category Rotorcraft.
- Part 33, Airworthiness Standards: Manned Free Balloons.
- Part 33, Airworthiness Standards: Aircraft Engines.



Advisory Circular

AC 43-210
DATE: 2/17/04

STANDARDIZED PROCEDURES FOR REQUESTING FIELD APPROVAL OF DATA, MAJOR ALTERATIONS, AND REPAIRS



Advisory Circular

Subject: MAINTENANCE AND ALTERATION DATA

Date: 10/7/02

Initiated by: AFS-300

AC No: 120-77
Change:

1. PURPOSE. This advisory circular (AC) provides one means, but not the only means, of ensuring that the contemplated maintenance, alteration, or continue-in-service condition is in compliance with applicable regulations and existing policy. This AC is not mandatory and is not a regulation. This AC recommends acceptable methods by which:

- Air carriers and commercial operators, operating under Title 14 of the Code of Federal Regulations (14 CFR) Part 121, Part 129, section 129.14, and Part 135, section 135.411(a)(2), may apply the special provisions of Part 43, section 43.13(c).
- Repair stations certificated under 14 CFR Part 145 may perform work for the operators identified in paragraph a above in accordance with section 145.2 and the special provisions of section 43.13(c).
- These air carriers and commercial operators may continue articles in service or perform maintenance and alterations in a different manner from the following:
 - Methods, techniques, and practices contained in manufacturer's Instructions for Continued Airworthiness (ICA),
 - Maintenance and restoration/overhaul manuals (such as a Structural Repair Manual (SRM)), or
 - Other methods, techniques, and practices acceptable to the Administrator.

NOTE: The special provisions of section 43.13(c) do not exempt these air carriers and commercial operators from the "approved data" requirement of sections 121.379(b) and 135.437(b), nor does it exempt a repair station from the requirement of 145.51(d)(3).

2. SCOPE. This AC applies to 14 CFR Parts 121, 135, and section 129.14 operators that are required to provide a continuous airworthiness maintenance and inspection program and to the aircraft they operate. The aircraft include:



AC 33-9-Major Repair.pdf



What is the Status of DER acceptance in EASA member states

FAA and EASA Reciprocal Acceptance of Repair Data within the United States and European Union

Presented to: Workshop on the Implementation of Annex 2
(Maintenance) to the Agreement between USA and EU



FAA & EASA RECIPROCAL AGREEMENT

- The FAA and EASA have agreed to reciprocal acceptance of repair data.
 - Implemented through the new US/EU Aviation Safety Agreement, effective May 1, 2011
 - Annex 1, paragraph 3.2.7
 - Technical Implementation Procedures, paragraph 3.3
 - Implemented prior to May 2011 through Bilateral Aviation Safety Agreements Implementation Procedures for Airworthiness with 6 EU member states.



REPAIR ACCEPTANCE BY EASA & FAA

- **FAA and EASA will accept each others approved repair design data regardless of State of Design of the component/product.**

Two processes established:

- Streamlined Reciprocal Acceptance of repair data for non-critical components and critical components developed by the TC/STC holder
- Formal approval of critical component repair data developed by a third party



Process 1: Streamlined acceptance of repair data

US to EUROPE:

- **EASA has certificated/validated the product or appliance, i.e. the product has an EASA TC/STC or ETSO approval.**
- **FAA is the authority of the State of Design for the repair design data.**
- **Data approved using the FAA system, major repair data approval via an FAA letter, FAA Form 8110-3, 8100-9 or 337**



Process 1: Streamlined acceptance of repair data (continued)



EUROPE to US:

- **FAA has certificated/validated the product, part, appliance or component (i.e. the product has an FAA TC/STC or TSO approval).**
- **EASA is acting on behalf of the State of Design for the repair design data.**



Process 1: Streamlined acceptance of repair data (continued)

EUROPE to US continued:

- **EASA repair design data approval is substantiated via an EASA repair design approval letter or a repair design approval issued under a Design Organisation Approval (DOA), and**
- **The repair is not in an area that is subject to an FAA AD, unless the AD allows for acceptance of an EASA repair design approval**



Acceptance of repair data

FAA and EASA have agreed to accept each other's systems for the classification and approval of repair data.

- **Data must have a local approval.**
 - **FAA approval for repairs designed in the US system;**
 - **EASA approval for repairs designed in the EU system**



Remember, FAA or EASA must approve/accept the repair design data under its own system before the other bilateral partner can accept it.



Process 2: CRITICAL COMPONENTS

Formal Approval of Critical Component Repair Data (by other than the TC/STC holder)

- **Make application through FAA/EASA:**
 - **Fast track process when the FAA or EASA can confirm that the applicant has entered into an arrangement with the TC/STC holder for this data.**
 - **Validation process is required when there is no arrangement with the TC/STC holder.**
 - **FAA or EASA will issue its own approval of the critical component repair.**



EASA & FAA AGREEMENT SUMMARY

- FAA and EASA will accept each others approved repair design data regardless of State of Design of the component/product.
- Critical components will require additional review.



Summary

- Benefits of DER Approved Repairs
 - Often deliver benefit of reduced maintenance costs
 - Many times improve availability of parts, getting your aircraft back into revenue sooner
 - Offer the potential for design improvements that enhance aircraft utilization and lower operating cost