TECH FORUM

Structure and Repair

ACJ Customer Forum 2024

ACJ | JUNE 2024

Customer Engineering Support
Wing Pylon HTP VTP

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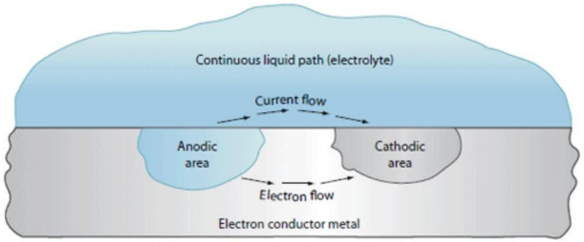
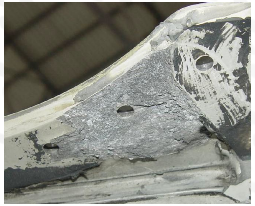
CORROSION

Corrosion is an electrochemical reaction between materials with different electrical potential in combination with their environment, lead to a destruction of those materials.

The driving factor

The driving factor : the presence of an electrolyte (fluids) in combination with damaged or degraded surface protection.





T/E Overhang - Cavitation

Contributing factors

- Unadapt material choice or protection
- Spillage of corrosive fluids combined with blocked drain systems
- Unadapt maintenance practices (tools, training,..)
- Severe environment conditions (humid, salty, polluted) as accelerator factor

Elimination of one of these conditions will stop corrosion

SRM 51-22-00

Corrosion types

- Stress
- Pitting
- Intergranular
- Exfoliation
- Galvanic
- Filiform
- Biological
- Fretting

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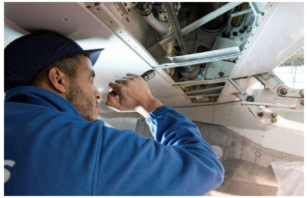
STRUCTURE LIFE CYCLE



CONTROL

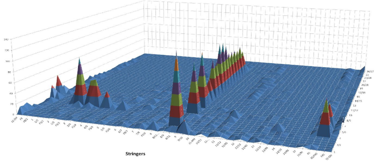
- Scheduled maintenance (MPD, CPCP, ISB, NTM)

REPAIR

- SRM, RDAF
- Engineering
- Repair

PREVENT

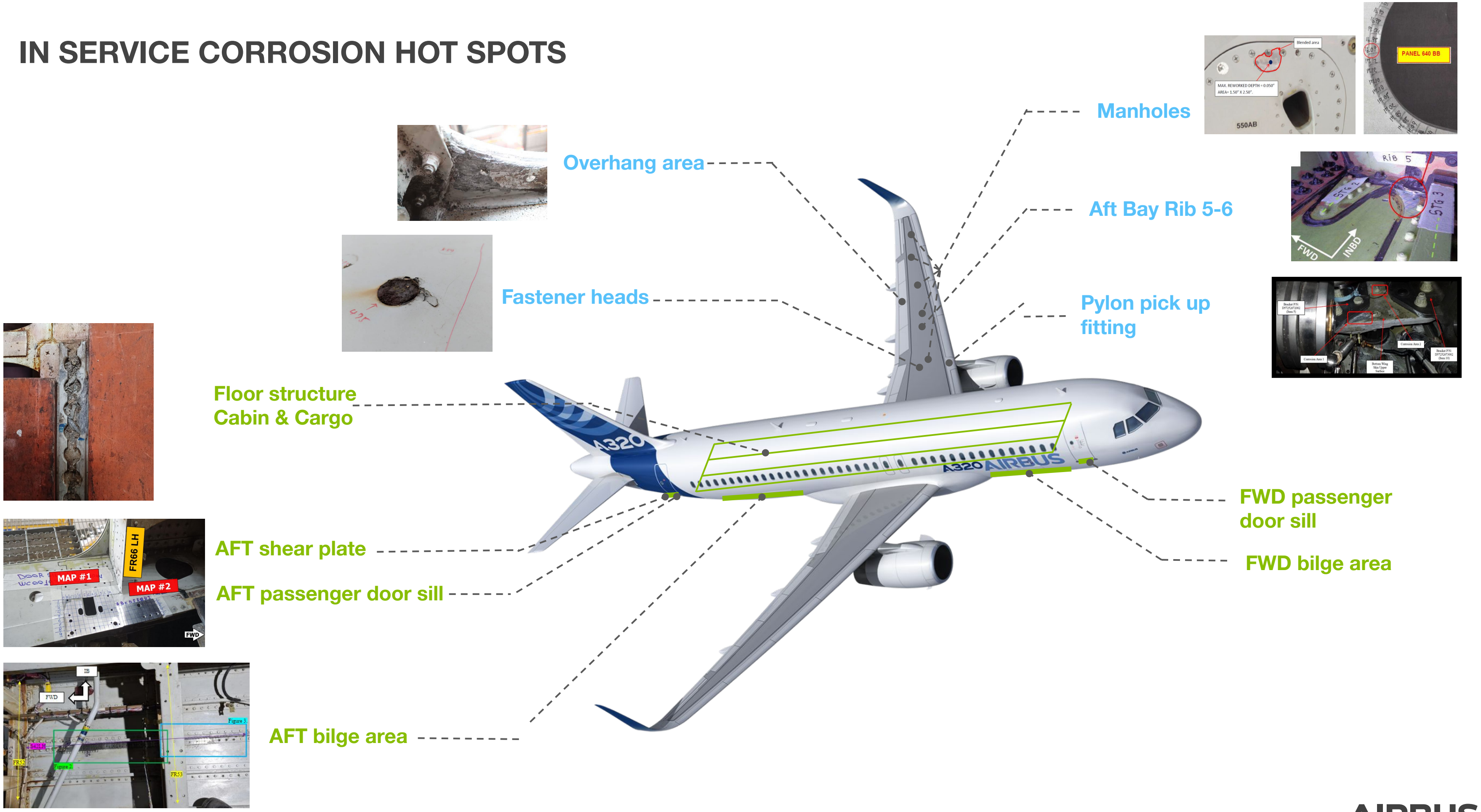
- Design changes
- Manufacturing
- Quality
- In-service documentation (SRM, AMM, ISI...)



ANALYSIS

- Monitoring,
- Detailed analysis
- Laboratory analysis
- Root causes

IN SERVICE CORROSION HOT SPOTS



Adapted Structure Repair support

4 ambitions

- Enhanced drumbeating
- Cross -organisation collaboration
- Smooth priority management
- Responsiveness

Structure Repair Support

7 teams WW, 130 people,
>94000 customer queries/year, 27000 RDAF

AIRTAC room
(Airbus Technical AOG Center)

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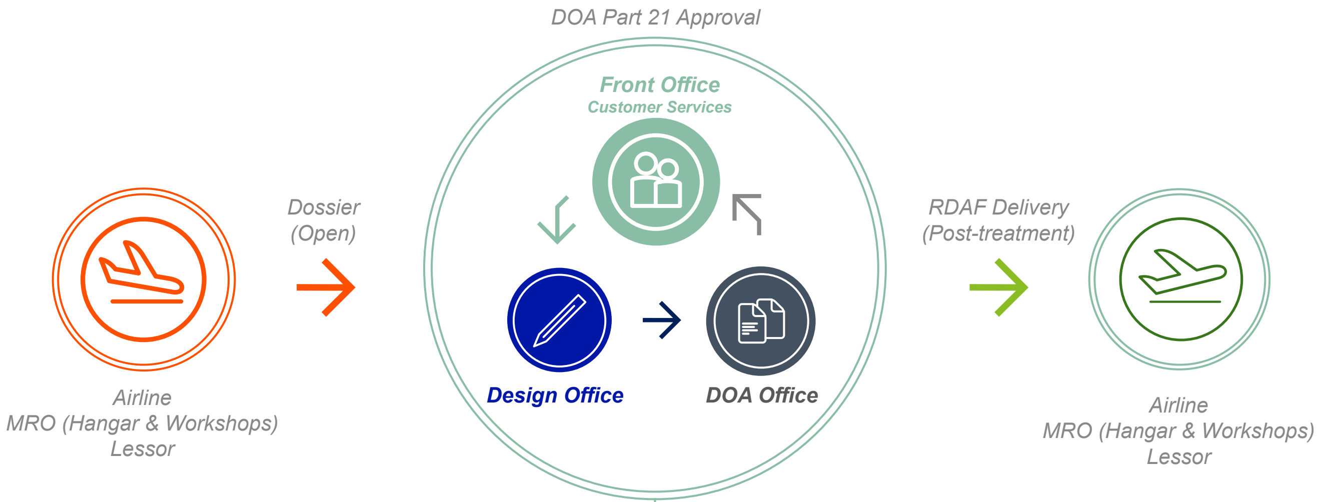
RDAF issuance process - overview



1. Damage Detection
- Aircraft Context
- Technical Scope

2. Design Definition
- Repair Design Definition:
- TD, R-Drawing, Comments

3. Embodiment (Part 145)
- Adaptability for Deviations;
- Parts, Alt. Material, Reactivity

4. RDAF Approval
- SAS, FAS, RDTS,
- RDAF

5. Post-Treatment
- Customer Autonomy;
- SRM, PDrS, QRS…

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Damage Report Best Practices

Reference
SRM 51-11-13

Dossier Creation

A/C Context
RTS, A/C in check, milestones/planning

SB/ALI/MRB /MPD task
Leads to findings

Illustrations
Clear pictures with indications, orientations
Detailed and general view

Work Performed
Inspections
Repairs

SRM ADL/ Repair Tasks
Explanation of SRM task (non) applicability

Explain Expectations
Permanent or temporary repair, and details on repair expected

Availability & Constraints
Repair capability, material and fasteners in stock

Cont…
Damage Types

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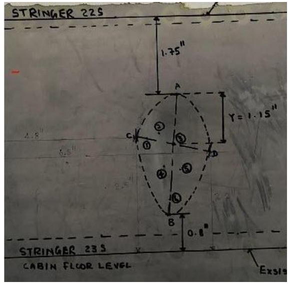
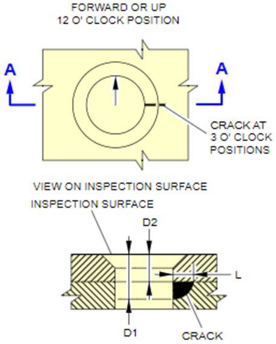
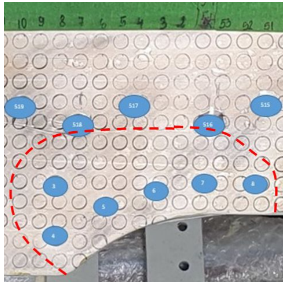
Damage Report Best Practices

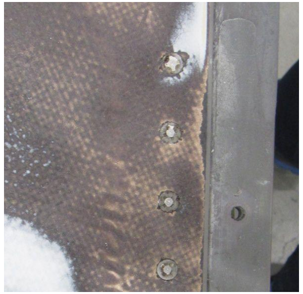
Reference
SRM 51-11-13

- Dent
- Crack
- Corrosion
- Lightning Strike









DENT

- DVI & HFEC internal and external
- Rototest when dent is closer than 15mm to fasteners (otherwise repair not permanent)

CRACK

- HFEC
- Crack Length
- Rototest
- D1-D2
- Crack Orientation

CORROSION

- HFEC
- Blend out (SRM 51-74-00)
- US

LIGHTNING STRIKE

- HFEC
- Blend out
- US

Remaining Thickness Grid mapping 10*10mm

- Excel format
- Extending 20mm beyond blended area where possible
- Highlighting the rework limits, to show the nominal thickness

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DEEP DIVE

Wing

Wing monitoring

Available Solutions - Corrosion Prevention

Wing Projects

Fuselage

Fuselage monitoring

Available Solutions - Corrosion Prevention

Fuselage Projects

Repair

Volume & Performance

Improvement plan & Achievements

WSC - Damage reporting guidelines
& Repair assessment process

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