



Australian Government
Department of Defence
Capability Acquisition and
Sustainment Group

Corrosion Management for New Capabilities

P-8A Poseidon

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P-8A Co-Operative Program



P-8A ISSC

Replacement of the AP-3C Orion.

- Boeing Commercial 'Green' 737...
- Modified to USN P-8A Specification...
- RAAF paint scheme applied...
 - The '13th SQN'



P-8A Interim Sustainment Support Contract

Comprised of:

- SRSPPO
 - Governance
- USN (NAVAIR)
 - Engineering authority
- Boeing Defence Australia
 - Engineering support
 - Boeing FSR's
- Airbus
 - Logistics



P-8A Co-Operative Program

US Navy P-8A

- 'Fleet Lead' concept
 - Their fleet is older than ours
- Still under 'Warranty'
- USN has the Horsepower*
- RAAF has the Agility*
 - Feed back into the CP
 - Improvements
 - Optimisation is key
 - Logistics
 - Engineering
 - Sustainment



P-8A Co-Operative Program

The good:

- 1st Aircraft – November 2016
- IOC – March 2018
 - 5 months ahead of schedule
- Remainder of fleet to be delivered in 2019
 - Approx 3yrs ahead of schedule*

The not so good:

- Facilities haven't kept pace
- Support & Test Equipment (GSE)
- Logistics – a new WS
 - NOTE: 'Good' problems to have!



*<https://www.airforce.gov.au/technology/aircraft/intelligence-surveillance-and-reconnaissance/p-8a-poseidon>

P-8A Corrosion Roadmap

CAR 2018-03 'MTCHO Obligations on ASI Management'

Welcome to the job!

1. Analysis of the effect of lack of fresh water rinse (Bird Bath) both at EDN and other operational locations;
2. Work with infrastructure development to ensure rinsing requirements will be met;
3. Review engine and aircraft wash procedures for effectiveness
4. Review RAAF CRE considerations regarding identified engine corrosion issues and work with FST to implement solution(s); and
5. Adequate recording and analysis of outcomes by FST regarding corrosion findings on the P-8A fleet.

P-8A Corrosion Roadmap

The challenges

- CAR 2018-03 '*MTCHO Obligations on ASI Management*'
- AIR7000 Infrastructure
 - Fresh Water Rinse – AKA 'Birdbath'
 - Aircraft Wash facility
- Support & Test Equipment (GSE)
 - Legacy Orion (Engine) GSE used
- Acquisition assumptions
 - New commercial based platform
 - Usage & maintenance assumptions
- Mitigation activities
 - Flow-on effects



CAR 2018-03:

1. Analysis of the effect of lack of fresh water rinse (Bird Bath) both at EDN and other operational locations;



Corrosion Management for New Capabilities



**Google Maps, March 2019*

Infrastructure

The challenges

- Fresh Water Rinse – AKA ‘Birdbath’
 - Originally Jan 2018
 - Current plan: 13 Sep 2019 (Rev 13)
 - Commissioning and Configuration
- P-8A Wash point
 - Originally Aug 2018
 - Estimated : 12 Jul 2020 (Rev 13)
 - Commissioning to follow
- Mitigations
 - P3 Birdbath (In use since Dec 2018)
 - P3 Wash point (In use since Jan 2017)
 - 11SQN Continuation Training (CT) on corrosion

Support and Test Equipment

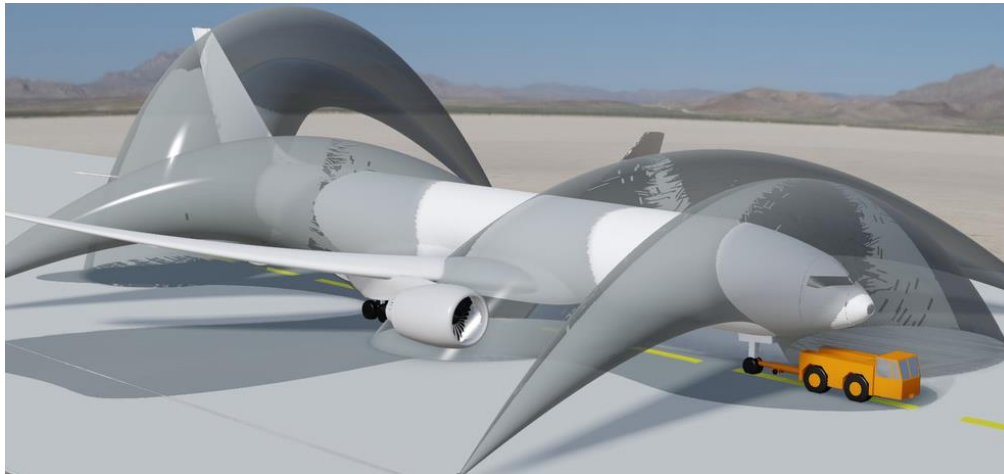
AIR7000 Assumptions

- No P3 GSE will be required once the P-8A Wash Point is commissioned.
 - Incorrect...
 - It's only a facility, we need wash equipment.



Corrosion Management for New Capabilities

Proposed RAAF
Birdbath (TBC)

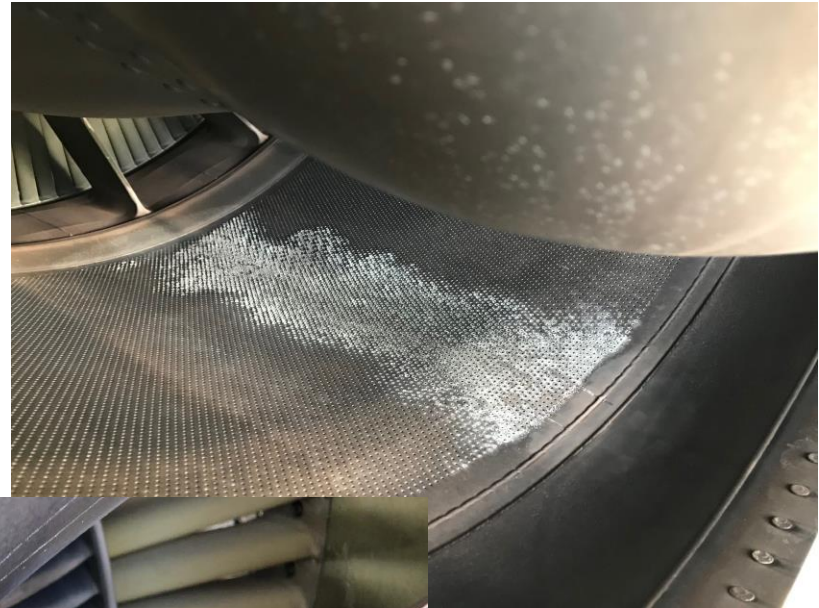
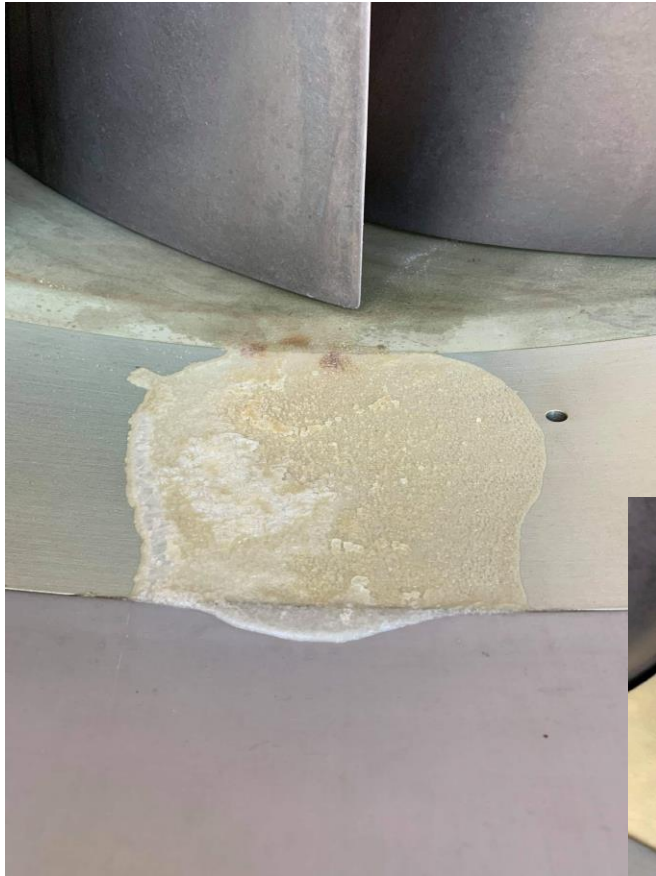


EDN P3 Birdbath trial



USN Birdbath

Corrosion Management for New Capabilities

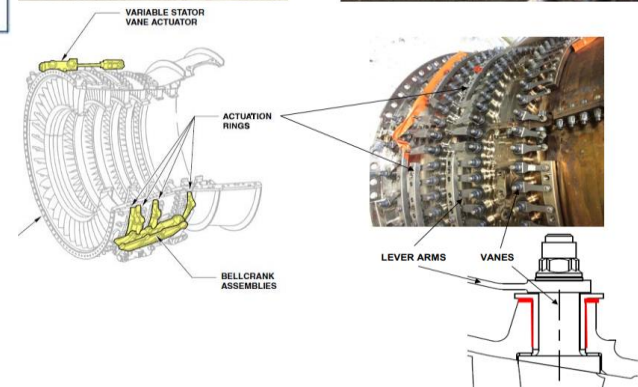
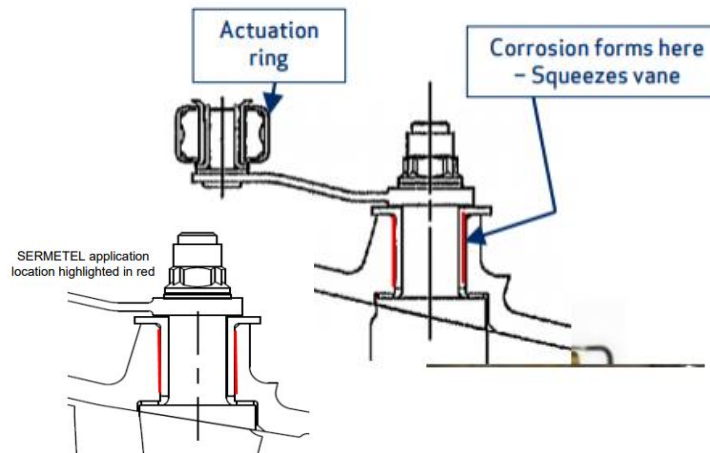
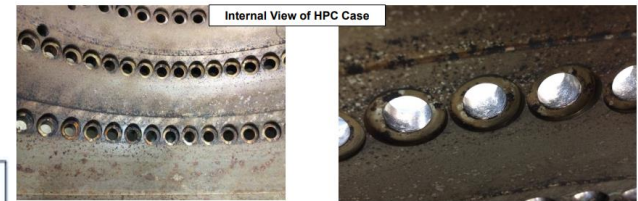
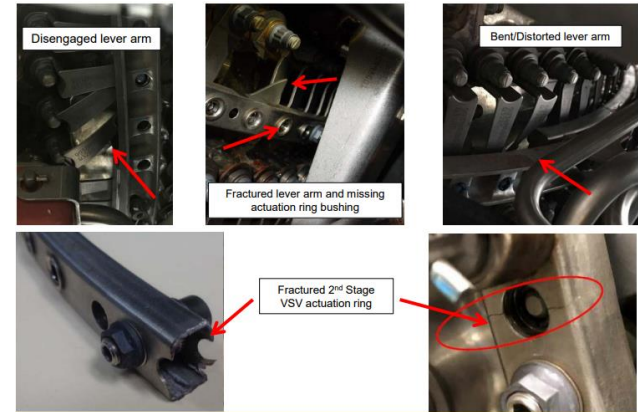


P-8A Corrosion Roadmap

Airframes and Engines!

Variable Stator Vane failure

- Borehole corrosion,
- 292SQN procedural support OEM & USN,
- SermeTel application F414 engines,
- RAAF retrofit activity.



P-8A Corrosion Roadmap

Airframes and Engines!

CFM56-7B Engine wash requirement

- AMM 72-00-03
 - Juniper Rig (JMP/HERD/D/1144/C600)
 - 'J' or 'Shepherd Hook'
 - Legacy P3 equipment
 - Post wash 'Dry out' run



P-8A Corrosion Roadmap

Airframes and Engines!

EcoPower System

- Better water dispersion
- Total containment set-up
- Post wash 'Dry out' run
- *Detergent wash requirement extant



P-8A Corrosion Roadmap

3. *Review engine and aircraft wash procedures for effectiveness*
4. *Review RAAF CRE considerations regarding identified engine corrosion issues and work with FST to implement solution(s)*
AMM procedure
 - Detergent wash followed by fresh water wash
 - Post bird strike
 - Other condition e.g.: Salt
- PMIC/TMP Intervals
 - Reduced and/or 'On Condition'
 - What impacts?
 - 11SQN Impost
 - CRE & SOIU assumptions
 - Aircraft Availability
 - S&TE

P-8A Corrosion Roadmap

5. *Adequate recording and analysis of outcomes by FST regarding corrosion findings on the P-8A fleet.*

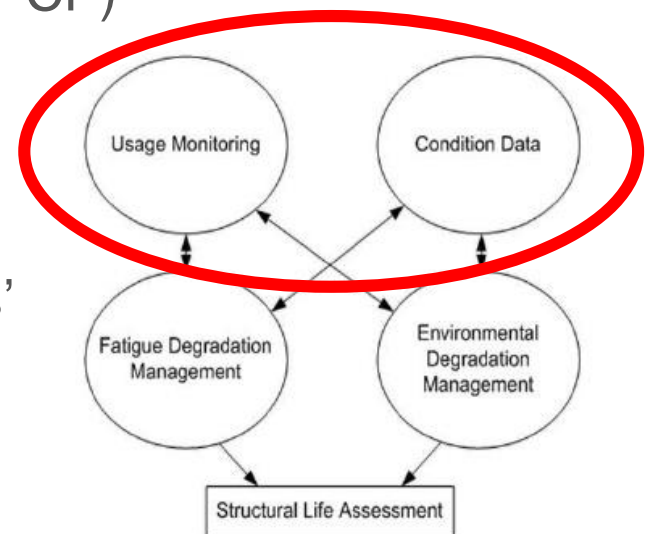
- Record what??
 - Surface contaminants
 - Salt – severity
 - Simple
 - Repeatable
 - Standard
 - Availability



P-8A Corrosion Roadmap

Environmental Degradation Management System (EDMS)

- Effective
- Simple
- Communication
 - Corrosion Prevention & Control Plan (CPCP)
 - ‘Continuation Training’
 - Data source
- Revise the process for effectiveness
- Concentrate on maintenance ‘Effectiveness’



P-8A Co-Operative Program

- 'Fleet Lead' concept
- '13th SQN' Synergies
- USN has the Horsepower*
- RAAF has the Agility*
 - Feed back into the CP
 - Improvements
 - CIC Program
 - DSTG
- Optimisation is key
- Currently:
 - >70% availability
 - >95% launch success



Questions?

