



*F-35 Lightning II
The Centerpiece for 21st Century Global Security*



F-35 A F-35 B F-35 C



F-35 Corrosion Management

Terry Chambers – Lockheed Martin

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AF Corrosion Conference – 6 June 2017 Corrosion Management



Topics



- **Program guidance is provided by**
 - *Corrosion Prevention and Control Plan*
 - *Corrosion Prevention and Management document*
- **Corrosion Prevention Advisory Board**



F-35 Corrosion Prevention and Control Plan



- **Objective:**

- *The purpose of the Corrosion Prevention and Control Plan is to describe the corrosion control tasks and responsibilities for the F-35 air vehicle and ground support equipment.*
- *Corrosion prevention and control requires the coordinated efforts of numerous disciplines and organizations across the F-35 team companies and the F-35 Joint Program Office (JPO).*
 - CPAB Defined

- **Eight Key Plan components required:**

- *Administrative*
- *Design/ Engineering Approach*
- *Material Surface Treatments and Finishes*
- *Sealing Methods*
- *Drainage*
- *Dissimilar Metals and High Risk Couples*
- *Diagrams/ Drawings*
- *Verification*

- **Plan is centered around Production, but will be adding additional Sustainment elements.**

- *Fleet Management and Trend Data.*

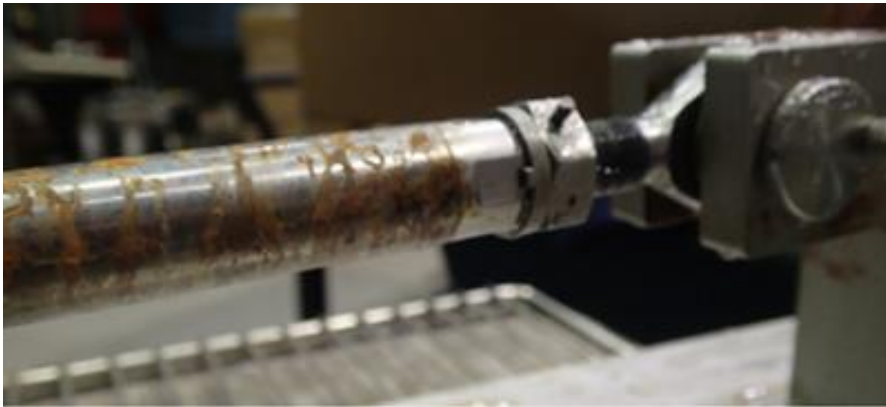


F-35 Corrosion Prevention and Control Plan



- **Supplier Base**

- *Appendix A of the Lockheed Martin Corrosion Prevention and Control Plan was developed to provide the guidance needed to author a Supplier Corrosion Prevention and Control Plan that met the Mechanical/Electrical Structural Integrity Program (MESIP) requirements.*
 - All MESIP suppliers contractually obligated to provide system level CPCP.
- *Requirement for corrosion testing*
 - Most all Systems have undergone corrosion testing.
 - Test method established for all variants via NAVAIR requirement.
 - ASTM G85, Annex 4 Acidified Salt Fog to 168 or 336 hour duration.





F-35 Corrosion Prevention and Management



- **Objective**

- *Outline evolutionary process for managing corrosion from design to production to sustainment.*
- *Culmination of inputs from various functional groups.*
 - Engineering – Design, Materials & Processes Engineering (M&PE), LO M&PE
 - Reliability & Maintainability (R&M)
 - Prognostics & Health Management (PHM)
 - Non-Destructive Inspection (NDI)
 - Depot Harmonization
 - Joint Technical Data Authors
 - Training
 - Autonomic Logistics
 - Aviation/Ship Integration
 - Structural and Systems Integrity



F-35 Corrosion Prevention and Management



- **CPM outlines the following topics.**
 - *Prevention*
 - *Materials & Finishes*
 - *Design*
 - *Materials Test & Development*
 - *Design Verification & Testing*
 - *Lessons Learned*
 - *Inspection and Maintenance*
 - *Design Access*
 - *Corrosion Mitigation and Inspection*
 - *Structural Prognostics and Health Management*
 - » *Sensors*
 - » *Corrosion Management System (CMS)*
 - *Data Collection and Analysis*
 - *Inspection Methods and Technologies*
 - *Depot Harmonization for Corrosion Control*
 - *Joint Service Technical Data (JTD's)*
 - *Training*
 - *Maintenance Management*
 - *Air Vehicle Sustainment*
 - *Autonomic Logistics Information System (ALIS)*
 - *Aviation/Ship Integration*
 - *Structure and Systems Integrity – Life Management*



F-35 Corrosion Prevention Advisory Board



- **F-35 CPAB Meetings**
 - *Semi-Annual*
 - *70 – 80 Attendee's*
 - *Broad range of Representation*
 - *LM, NGC, BAE*
 - *Joint Program Office (JPO)*
 - *AFRL*
 - *Navy and Air Force Depot*
 - *Air Force Unit Level*
 - *Marine Corps Unit Level*
 - *Navy Unit Level*
 - *Broad Range of Topics*



Typical CPAB
Agenda



Questions?