F-35 Corrosion Management
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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
Questions?