

Air Force Materiel Command



OC-ALC Technology Challenges

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Universal ALC Technology Needs

- **Production Capability and Capacity**
 - Processes
 - Equipment/Tools
- **Program Management**
 - Aircraft Availability Improvement Program
 - Aging Platforms
- **Supply Chain Management**
 - Forecasting
 - Sourcing
 - Allocation/Distribution
- **Energy and Environmental**
 - Alternative Sources of Energy
 - Preservation of Environment (Industrial Complexes)



Universal ALC Technology Needs

- **Environmental**
 - Develop special coatings
 - Wastewater processing
 - Reclaim / Recycle materials
- **Maintenance Acceleration**
 - Reduce coating removal timeframe
 - Bonded repair technology
 - Condition-based maintenance monitoring
- **Non Destructive Inspection**
 - Capability to “see through” multiple layers
 - Inspect holes without removing fasteners
 - Improve accuracy – eliminate human error and false negatives



Overview

- **What We Do**
- **Processes Involved**
- **KC-135 PDM Flowdays**
- **Distribution of Workload Hours**
- **OC-ALC Technology Challenges**
- **OC-ALC Lean**
- **Summary**
- **Contact Information**





What We Do

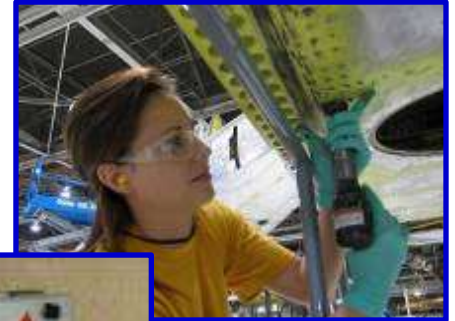
- **Programmed Depot Maintenance**
- **Speedlines**
- **Aircraft Modifications**
 - B-1** **B-52**
 - E-3** **KC-135**
- **Heavy Overhaul on Engines**
- **Component Repair and Overhaul**
 - **over 81,000 Components**
- **Local Manufacture**





Processes

- Avionics
- Sheetmetal
- Composites
- Pneudraulics
- Fuel Accessories
- Rapid Manufacturing
- Software
- Rapid Prototyping
- Recovery

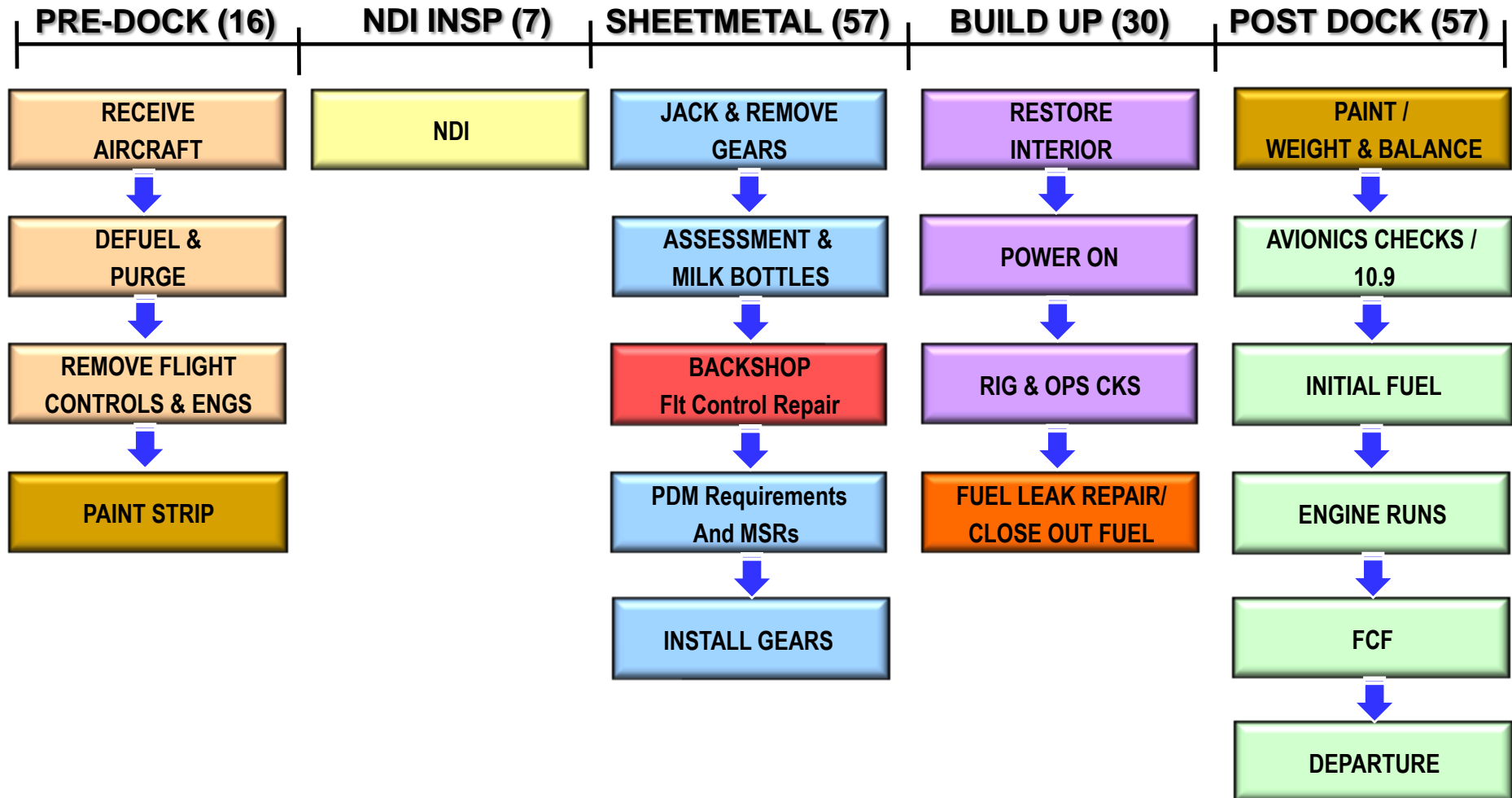




FY08 PDM Flow

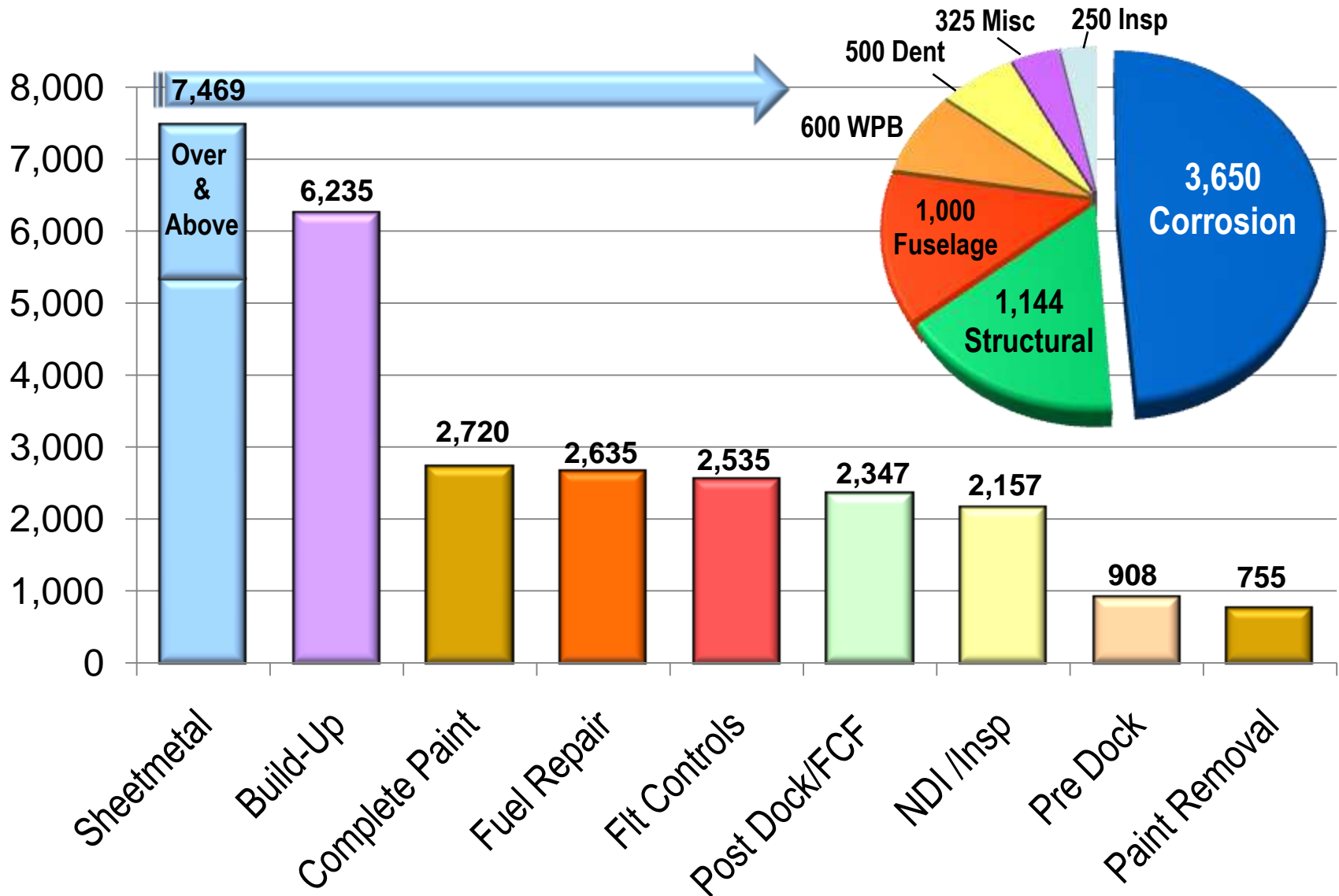


AVERAGE: 167 FLOWDAYS





Distribution of Workload Hours





OC-ALC Technology Challenges

- **Workflow Process**
 - Aircraft Coatings Removal
 - Point Cloud to Solid Conversion
 - Rapid Logon
 - Quality Data Analysis and Prescriptive Metrics (QDAPM)

- **Non-Destructive Inspection**
 - Flexible Fastener Hole Perimeter Scanner
 - Flexible Conformal Eddy Current Probes
 - Bolt Hole Ultrasonic Tester (BHUT)



OC-ALC Lean

KC-135 Cabin Pressurization Check



- Inadequate repair techniques drove wasted pressurization tests
- **RESULT:** Reduced process flow by 2.6d per aircraft; \$212K annual cost avoidance

Smart Tool Box



- RFID based
- 100% accountability
- Each tool has a unique ID
- Real-time tool / asset visibility
- Integrates PMEL calibration dates
- Increases technician touch labor time

Faulty Oil Supply Tube



- Developed a repair process for faulty F110 oil supply tube
- **FROM:** 3d process, 7% success rate
- **TO:** 3hr process, 100% success rate
- Process adopted by GE & Turkish AF

Cobra Engine Lift



- New tool and method for removal and installation of engines
- **FROM:** 2112 Standard Hours/Yr
- **TO:** 864 Standard Hours/Yr



Summary

- **Industrial processes ripe for improvement**
- **There are specific opportunities for Technology insertion**
- **Benefit from Lean...external and internal**



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