Aircraft Modifications & Instrumentation

NAWCWD, China Lake, CA

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Introduction

• Who are we?

• Who do we support?
  • Rapid Warfighter Response
  • Integrated Program Teams (IPTs)
    • F/A-18 (Advanced Weapons Laboratory)
    • AV-8
    • H-1
    • Air Test & Evaluation Squadron THREE ONE
    • AIR Test & Evaluation Squadron NINE
    • Misc. Weapons IPTs
    • Foreign Militaries (Australia, Finland, Kuwait, Switzerland)
    • Others
Aircraft Supported

- VX-31
  - 18 F/A-18(A-G)
  - 5 AV-8
  - 3 Helicopters
    - UH-1Y, AH1-W, AH1-Z
- VX-9
  - F/A-18 as required
  - UH-1Y, AH1-W, AH1-Z
- Other
What Do We DO?

- Aircraft Scheduling & Range Coordination
- Engineering & Integration
- Modification Proposals & Level 3 Flight Clearances
- Air Facilitate Mod/Flight Clearance Process
- Vehicle hardware modifications/configuration
  - Pre-ECP
  - Aircraft Upgrades
  - Weapons Upgrades
  - Instrumentation
- Air Vehicle software configuration
  - Mission Computers, Stores Management, RADAR, etc..
Instrumentation

• 20 Installed Systems
• 9 Mobile systems
• Various capabilities of systems
  • Core System (1553, Video, RS422, RS232, Misc. PCM, Secure Telemetry)
• Additional Capabilities
  • Avionics Fibre Channel (5 Aircraft)
  • RADAR IQ (6 Aircraft)
  • Analog (4 Aircraft)
  • High Speed Video (mobile)
• Test Vans
Getting It Installed

• Preparation

• The processes
  • Approval to Modify
    • Ownership
  • Modification Proposal (VX-30/31 Instruction 13050)
  • Green Box Modifications
  • Flight Clearance (NAVAIRINST 13034.1)
Modification Process

Modification Process Flow Chart

NAVAIR Level Common Processes

Test Planning
- Air Vehicle Change Requirement
  1.

Navairinst 3960 Series
- Test Requirements & Test Planning

Navairinst 13050 Series
- MOD Proposal Approval
  3.
- MOD Induction Approval
  5.
- Design Deviations Captured
  6.
- MOD Accepted
  7.

Mod Authority
- Modification Proposal
  2.
- Update Proposal
  4.

Config Control
- Capture MOD Package Data

Navairinst 13034 Series
- Flight Clearance Request & Review

Flight Clearance
- MOD Flight Data Package
  8.
- Approved Flight Clearance
  9.

Approved Test Plan

Approved Flight Clearance

Flight Test

W/I 90 days Mod Accepted

Navair MOD Data Package

Navair MOD Package

3A

10.
Flight Clearance Process (View 2)

Planning Meeting and EDRAP Development

Generate and Submit Request

Request and Supporting Data

Determine Scope of Review

Execute Review

Release Flight Clearance

Finalize Flight Clearance
Flight Clearance Empowerment

• AIR-4.0, has been delegated Tech Authority Responsibility by AIR-00 to:
  • Ensure that our technical standards, tools and processes ensure the safety, reliability and performance of our products, are practical, are complete and meet programmatic needs
  • Ensure that our products are certified to meet those requirements
  • Ensure that our products are supported properly throughout their lifecycle
  • Ensure the timeliness and responsiveness of technical decisions without excessive review and oversight
Team Empowerment

- Flight Clearances
  - Level 3 Interim Flight Clearances
  - TAE (Technical Area Expert)
    - Instrumentation & Strength
  - Most all USN/USMC platforms
- Modifications
  - None
  - Working on Instrumentation Green Box
What Slows Us Down (good or bad)

- Money
- System Level Priority
- Geography
- Resource Availability
  - Aircraft
  - Maintenance
- Procurement
- Dynamics
Improvement Efforts

• Green Box Empowerment
• NAVPASS Database
• Increased Local Empowerment
Questions?

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