USAF Maintenance Metrics: Looking Forward with Aircraft Availability (AA)

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Chief, Congressionals, Studies & Analysis Branch
Directorate of Maintenance
DCS/Logistics, Installations and Mission Support
Overview

- **Leadership Vision:**
  - Defining the problem
  - Supporting metrics
- **Aircraft Availability (AA) vs. Mission Capable (MC)**
- **Aircraft Availability Improvement Program (AAIP)**
USAF Priorities

Our priorities are clear:

-- Winning the Global War on Terrorism

-- Developing and caring for our Airmen

-- Modernizing and recapitalizing our aircraft and equipment

- 2007 Air Force Posture Statement

The U.S. Air Force must remain ready to Fly and Fight
17+ Years of Combat Operations
Sustaining Ops in a Demanding Environment

Since DESERT STORM, we have been flying an average of 2.3M hours/year, but with a force that is 31% smaller, 42% older
Increasing Stress (how to describe?)

- Stress well articulated
- However...MC doesn’t support it

**Graphs:**
- **Flying Hours per Aircraft**
  - Total Aircraft in Inventory
  - Reaching service life sooner
- **Annual MC Rates**
  - Active
  - AFRC/ANG
• The ‘metric’: not entire fleet
• The ‘methodology’:
  • Focus on historical trends
  • Reactive: what happened?
• New metric…new methodology
The Metric (AA vs. MC)

- **What is MC?** (AFI 21-101, Para 1.15.3.14)
  
  MC Rate = MC hours / Unit Possessed hours
  
  - All acft that are possessed by unit (poss portions of PAI, BAI, AR)

- **What is AA?** (AFI 21-101, Para 1.15.3.3)
  
  AA Rate = MC hours / TAI hours
  
  - All PAI, BAI, AR acft hours (entire fleet)

- **Categories of non-availability (Five)**
  
  - NMCM, NMCS, NMCB, UPNR (B$, X$), Depot (D$)

MC ‘great’ at unit level – ‘not good’ for fleet
AA is the metric for ‘Health of the Inventory’
Focus on Aircraft Availability

- At enterprise level, forward looking approach needed
  - Teaming of lead commands and programs managers
  - Maximize resource allocation

- Addresses combat capability—"how many jets are ready?"
  - Drivers include MC, NMCM and NMCS rates
  - Includes all factors to include Depot, Mod, TCTO, and other fleet management factors
  - AA Standard is ‘requirements based’
CSAF Question:
How many jets are ready?

- **Fighters (2506)**
  - Able to Launch 67% (1691)
  - 22% (1589)
  - 63% (1589)
  - 11% (2506)
  - 4% (2506)

- **Bombers (182)**
  - Able to Launch 57% (104)
  - 25% (41)
  - 41% (74)

- **Mobility (1337)**
  - Able to Launch 60% (800)
  - 20% (267)
  - 44% (592)
  - 20% (267)
  - 16% (214)

- **Other (440)**
  - Able to Launch 59% (261)
  - 18% (23)
  - 43% (190)
  - 16% (23)

- **Aggregate (4465)**
  - Able to Launch 64% (2856)
  - 55% (2445)
  - 15% (466)
  - 9% (405)

Source: REMIS
Sample: Aug 06
Annual Mission Capable Rates
- Down 9.2% Since 1991
- Up 9.5% Since 1991

Annual Non Mission Capable Due to Maintenance
- Up 62% Since 1991
- Up 38% Since 1996

MX Man Hours Per Flying Hour
- Up 62% Since 1991

Cost Per Flying Hour
- Up 38% Since 1996

FMC availability dropped 9 points

Declining Aircraft Availability
Increasing Stress (how to describe?)

- Flying Hours per Aircraft
  - Reaching service life sooner

- Total Aircraft in Inventory

- Stress well articulated

- AA better articulates

- Average Age
  - Percent Available
  - Average Aircraft Age
Aircraft Availability Improvement Plans (AAIP)

- Forward looking (FYDP)…by Weapon System
- SPMs & Lead MAJCOMs jointly develop plans
- Governance & standardized formats for consistency
- Include improvements/initiatives at unit level, MAJCOM, depot, supply chain, contractors, etc.
- Annual targets toward Weapon System (AAIP) Goal
- Goal → requirements-based AA Standard

Where do we want to be?

Now  Future
Review Performance & Look Forward

- AAIP’s are dynamic…Identifying best practices and then sharing…across organizations and weapon systems
  - Unifying efforts across all the Centers and standardize the reporting of AAIP Metrics
  - New focus on cost reduction and Total Ownership Cost
  - Senior level review and status updates to CSAF
E-3 Aircraft Availability Glide Slope

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E-3 Availability Initiatives

Improve E-3 Availability to the Warfighter
≥ 20% or 4.1 A/C by FY11

- NMCS: Reduce by ≥ 0.2 A/C
- NMCM: Reduce by ≥ 2.3 A/C
- NMCB: Reduce by ≥ 0.2 A/C
- UPNR: Reduce by ≥ 0.3 A/C

Depot Possessed Reduced by ≥ 1.1 A/C (FY11)

- Depot Flow Enhancement Program
- Depot Lean Transformation
- RM&A Installs/Scheduled MX
- Streamline the 107 Process

- RM&A Initiatives (Airframe, Electrical and Fuel Systems)
- Annual ISO
- Maintenance During Fuel Ops
- 552 MXG Flightline Initiatives

- MC Rate Recovery Plan
- Bench Stock Analysis
- Consumable RSP Kit

- Streamline/Eliminate PDM Acceptance Inspections
Future of AA and AAIP

- Annual refresh & approval based on new FY AA Stds
- O&S Cost reduction incorporated into AAIP
- Status briefed semi-annually to CSAF
- Link AAIP to budget/resourcing decisions [CAM]
- Addition of non-aircraft systems (ICBM, Space, Comm…)
AA and AAIP
Enterprise view of fleet health
to support Air Force Goals/Vision
# CSAF Aircraft Availability Dashboard

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*Note: Actual rates for current period are compared with AA targets. The color gradient (AA) for the Tier I Dashboard will be comparing the number of Aircraft of actuals and Targets that are carried out to the third decimal place. The Tier II charts will display figures out to only one decimal.*

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<td>&gt; -1 Std Dev of AA Target</td>
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**Small Fleet: <=10 A/C**  
- Within .5 Std Dev of AA Target  
- -.5 Std Dev to -1 Std Dev of AA Target  
- > -1 Std Dev of AA Target  
- No Data Available

**Large Fleet: >10 A/C**  
- Within 2.5% of AA Target  
- 2.5% to -5.0% of AA Target  
- > -5.0% of AA Target  
- No Data Available
AC-130 Aircraft Availability
AAIP Based AA Goals

Constraints
- High volume of MODs/PDMs/UDLMs
- Drivers – Cracks/corrosion, engine nacelles, IR tubs/tracks, inspections
- War time OPS tempo driving increased ISO changes; added rainbow fitting inspections

Action Plan
- Continue progress in implementing High Velocity Maintenance initiatives
- Initiative to conduct Corrosion Control Inspections aimed at reducing over/above UDLM work
- Implementing minor mod in tracks/tubs design; expect reduction in maintenance hours
  - Working complete re-design of IR tub/track system
- Contract maintenance team performing ISO inspections in 9 days
  - FY08 projected fly days saved = 118 Days

6 Mos Projection & Resources Needed:
- Expect current upward AA trend to stabilize
- Continued emphasis on obtaining reliable gun system for plus 4 aircraft; Expedite fielding GMS2 MOD
- Continue working CWB procurement and schedule to maximize AA
- High Velocity Maintenance initiatives to reduce downtime

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Grounded: 0  Msn Limited: 4
RC-135 Aircraft Availability
AAIP Based AA Goals

- Constraints
  - Currently exceeding overall goal
- Action Plan
  - Contractor implemented lean PDM and Modification initiatives in Apr 07
  - Contractor senior leadership conducting monthly progress meeting with the program manager
- 6 Mos Projection & Resources Needed:
  - Continue execution of AAIP initiatives
  - Current trend indicate FY07 AAIP goal will be achieved

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Grounded: 0  Msn Limited: 0

I n t e g r i t y  -  S e r v i c e  -  E x c e l l e n c e
## How we used to look at fleet health

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