ART OF THE POSSIBLE NEWSLETTER

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AIR FORCE SUSTAINMENT CENTER

The AoP Newsletter is a monthly bulletin to communicate the latest enterprise AoP activities to the AFSC workforce. It provides updates on significant AoP institutionalization and implementation activities and tools. More detailed information is available on the AFSC AoP SharePoint site at https://cs2.eis.af.mil/sites/22197/AoP/SitePagesR/Home.aspx. If you have a question or would like to submit content for a future AoP Newsletter, please contact the POCs listed below.

575 AMXS & T-38 Talons—AoP Enables Cost-Effective Readiness

The T-38 Talon has been serving the U.S. Air Force since 1959. In addition to its principal role as the supersonic trainer for fighter and bomber pilots, it also performs a variety of missions in support of the flight and weapons test communities as well as the Combat Air Forces, and the National Aeronautics and Space Administration (NASA) where it has accumulated up to 20,000 hours per aircraft flying supersonic and high-G profiles. Though the Talon fleet has provided nearly six decades of service, the fleet is forecast to remain in service past 2030. To achieve this incredible longevity, the Mature and Proven Aircraft Division needed a "*fountain of youth*" and partnered with the 575th Aircraft Maintenance Squadron (575 AMXS) to execute the PACER CLASSIC III (PCIII) modification program.

The 575 AMXS was established as a geographically-separated OO-ALC squadron on 24 October 2014 to provide depot-level modification, repair and overhaul for the T-38. A key focus of the squadron since inception has been striving to employ Art of the Possible (AoP) methodology to efficiently and effectively perform the most extensive and invasive overhaul in the T-38's history—PACER CLASSIC III.

PCIII is planned as a 240-day machine. The work package replaces 185 separate primary structures, such as longerons, bulkheads, skins, and formers. In addition, an additional 155 components are assessed for serviceability, repairs are made as necessary. Each PCIII aircraft requires approximately 8,000 hours of planned work, with many needing an additional 1,200 to 2,200 hours of unplanned work to repair issues identified through comprehensive inspection.

From the original two validation/verification aircraft that each required more than 600 days to complete, the 575 AMXS has relentlessly pursued process improvements using AoP methods as their foundation. This dedicated pursuit allowed the 575 AMXS to achieve full-rate production of 18 PCIII aircraft per year in FY17, while simultaneously closing out 4 additional, smaller modification programs. In addition to reaching full-rate production on its PCIII line, the 575 AMXS was able to reduce its average flow days for PCIII from 340 to 268 days per aircraft; returning aircraft to the fleet 72 days faster while continuing to strive for our 240-day AoP milestone.

This improved velocity allowed the 575 AMXS to meet its goal of reducing Work-in-Process (WIP) from a high of 32 aircraft in FY16 to 15 aircraft in work at one time in FY17. The WIP reduction not only improved overall fleet aircraft availability, but enabled the 575 AMXS to better utilize its resources to outpace its production contract by completing 63 planned aircraft against a requirement of 60. The unit also surged to repair an additional three unplanned aircraft. This production effort was accomplished while also reducing the squadron's overtime expenditures by 23K hours from FY16 to FY17.

The benefits garnered through the 575 AMXS's use of AoP are far-reaching. In terms of achieving Cost Effective Readiness (CER), the squadron's efforts extend well beyond the estimated $5M overtime reduction. By helping keep the T-38 fleet flying, the 575 AMXS supports one of the most cost-effective, fully acrobatic and supersonic aircraft in America's arsenal. The $9.3K cost per flying hour is a primary reason the T-38 was used to fly almost 100K hours in FY17 to graduate over 1,200 multinational pilots through courses ranging from fighter fundamentals to test pilot certification. T-38s fly "Red Air" for Dissimilar Aircraft Combat Training against F-22s and F-35s. U-2, B-2, and NASA's mission commanders and space vehicle operators use the T-38 to help maintain their qualifications and proficiencies at considerably less cost than utilizing their primary platforms to meet all requirements.

The 575th's relentless application of AoP speeds the return of the Talon to the fleet, reduces WIP, and helps keep the T-38 flying for its incredible 75 year planned service life—that is cost effective readiness at its finest! Next up in AoP is to achieve 210 flow days…

For further discussion, contact Mr. Joe Lopez, Director, 575 AMXS.

NEWSLETTER POCs

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UPCOMING EVENTS:

AoP 301 Sq/Div Leadership Course

30-31 Oct 18, Langley AFB

AoP 401 Senior Leader Course

TBD

AoP Implementation Performance Review (IPR)

5 Dec 18

AoP Enterprise Monthly Call

Last Friday of the Month, 1430 EST, MMN DSN 852-9999; passcode 1103#

AoP FAQs and Misconceptions:

What is "Drum Buffer Rope" and how is it applied?

Drum-Buffer-Rope (DBR) is an oft-misunderstood Theory of Constraints (TOC) concept. Many believe DBR is a specific and separate approach to managing a process machine; however, DBR is actually a methodology of subordinating your process to your constraint when you cannot resolve that constraint. The DBR methodology works well in high volume, short flow time types of processes where a constraint cannot be resolved. For DBR to work, you MUST identify the true pacing constraint of your process. Identify your true constraint based on data, not emotion or "I think" or "I feel." If you do not choose wisely you can inadvertently reduce throughput, increase WIP and drive up flow days.

AoP SharePoint URL:

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