

# **114<sup>th</sup> MAINTENANCE GROUP**

## **LINEAGE**

## **STATIONS**

Sioux Falls, SD

## **ASSIGNMENTS**

## **COMMANDERS**

Col Merlyn S. Tideman

Col Wayne M. Shanks, 2004

Col Joel De Groot

## **HONORS**

**Service Streamers**

**Campaign Streamers**

**Armed Forces Expeditionary Streamers**

**Decorations**

## **EMBLEM**

## **EMBLEM SIGNIFICANCE**

## **MOTTO**

## **NICKNAME**

## **OPERATIONS**

The mission of the 114th Maintenance Group is to ensure that aircraft and equipment are safe, serviceable, and properly configured to achieve mission requirements.

The 114th MXG is comprised of approximately 481 members and is organized into three assigned units: 114th Maintenance Squadron, 114th Aircraft Maintenance Squadron, and the 114th Maintenance Operations Flight.

The professionals in the 114th MXG are tasked to inspect, repair, overhaul, modify, test, and analyze the assigned aircraft and equipment and to ensure air worthiness and serviceability.

*The unit has reorganized the command structure over the past few years. We went from what was called the "Quad Deputy" structure to three groups under the wing commander, currently Col Tom Lien.*

*The positions of Deputy Commander for Maintenance and Deputy Commander for Resources were abolished and Logistics Group Commander was established. The Logistics Group is made up of all the functions of Maintenance and Resources, except Accounting and Finance which moved under the Base Commander. In April 1995 we reorganized further by dividing aircraft maintenance into two new squadrons called Aircraft Generation Squadron and Maintenance Squadron. The AGS consists of two flights, the Sortie Generation and Sortie Support Flights.*

*The Maintenance Squadron now includes a Component Repair Flight and an Equipment Maintenance Flight. These two new squadrons, along with the Logistics Squadron, are discussed in their respective sections of this 50th Anniversary Book.*

*Three Squadrons (Maintenance, Aircraft Generation & Logistics) and three support functions (Quality Services, Weapons Standardization, & Logistics Support Flight) comprise the Logistics Group. The three support functions stand alone, yet they support aircraft maintenance. Reorganization is constantly in effect throughout the entire Logistics Group. Quality Services (QS) for example, started out as Quality Control, then Quality Assurance, and now Quality Services. These changes have all been within the last 20 years. The primary roles of the QS Section are to facilitate quality and process improvement through methods of evaluation measurement, and analysis. QS also serves as the focal point for maintenance quality initiatives. We are staffed full-time with a supervisor, three inspectors, and a tech order person. During guard drills our "family" expands to include an officer, one TODO, and four inspectors.*

*The Technical Order Distribution Office (TODO) is a separate entity within this section. This person is responsible for all initial distribution and requisitioning requirements that apply to equipment maintained, owned, or operated within the logistics/maintenance complex.*

*The second support function is Weapons Standardization. The Loading Standardization Crew (LSC), along with the Lead Team, sets standards, develops local policies and procedures, and interprets all technical data governing the loading standardization and evaluation program. Our crews are trained on general purpose bombs, cluster bombs (CBUs), guns, missiles, and chaff/flares.*

*Our LSC and lead crew, at the request of other F-16 units, have been asked to evaluate and assist with Operational Readiness Exercises (OREs), as far away as Texas and Florida, and as close as Volk Field, Wisconsin.*

*Steve Ziegler, Nick Romanowski, and Joe Rieter, just to name a few from the early seventies. They saw us through several aircraft changes and the start of the ICT program, which was implemented in 1988. The third support function, Logistics Support Flight, is responsible to the LG for aircraft maintenance staff functions required for the efficient operation of the Logistics Group. The flight includes the Maintenance Operations Center (MOC), Plans, Scheduling, Documentation (PS&D), Comprehensive Engine Management (CEMS), Training Management, Maintenance Analysis, and Maintenance Plans and Programs.*

*The main function of the MOC is to monitor and coordinate the production effort. The MOC monitors the implementation of the flying schedule as well as scheduled and unscheduled maintenance. PS&D coordinates and publishes maintenance plans and, in conjunction with the Analysis function, ensures the LG is advised of maintenance capability, problem areas, and adherence to schedules. Engine Management responsibilities are to ensure proper documentation and reporting of TCTOs (Time Compliance Technical Orders), time changes, and parts tracking on engines and engine related components. Training Management, comprised of upgrade training and qualification training, ensures that all personnel are qualified to perform their job, and that a balance of skills is maintained for all maintenance personnel. Maintenance Analysis performs mission, process, and trend analysis. It then disseminates results and informs personnel of unit performance. Plans and Programs control and coordinate various plans and programs involving aircraft logistics. Among them are mobility, facility management, maintenance manning, budget formulations, and maintenance funding.*

*In 1946 our first mechanics were WWII veterans. Prior service members trained the new recruits. Many were farm kids with a very basic mechanical knowledge. , our planes were not "high-tech." There was little specialization and after a six week training period, individuals were assigned to a work area.*

*Times changed! The entire maintenance organization has gone through several reorganizations, realignments, upsizing, downsizing and aircraft conversions.*

*We knew the A-7 inside and out. In 1989 we were awarded the coveted Air National Guard Maintenance Effectiveness Award followed by the Armed Forces Expeditionary Medal Campaign Streamer for 1989-1990.*

*While the A-7D was state-of -the art in 1977, it became outdated by the futuristic fly-by- wire F-16C received in 1991.*

*With the F-16 came more awards and recognitions. In 1993 we were awarded the prestigious Air National Guard Daedalian Maintenance trophy. We also contributed to the 1995 Air Force Out-standing Unit Award, as well as the previous four awards.*

*As we got into the F-16 the unit organization changed. The old CAMS (Consolidated Aircraft Maintenance Squadron) acronym became obsolete in 1992 when we were selected to be a test*

*base for a LGM/AGU (Logistics Maintenance Squadron and Aircraft Generation Squadron). When the test was completed, we implemented an ACS (Aircraft Generation Squadron) and MXS (Maintenance Squadron). At the same time the unit downsized from 18PAA (Primary Authorized Aircraft) to 15PAA, causing a few position downgrades and losses.*

*While this was happening, we were part of a 2-level maintenance test. Previously, under 3-level maintenance, a defective LRU (black box) went from the aircraft to the back shop then to depot (if necessary). , under the 2-level test, LRUs are sent directly to the depot. The efficiency of this concept, as with any new concept, will be tested over time. We in the Air Guard feel that we can provide a better quality product with our experience advantage, but it involves bigger issues, such as airlifting test sets in wartime and manning.*

*The F-16 brought excitement, new technology, a rapid learning curve and plenty of work.*

*We performed over 150 aircraft TCTOs (Time compliance Tech Orders) and over 50 engine TCTOs. Each shop has changed considerably with the F-16. With no other fighters in production we should be in the F-16 business for many years.*

*Our present Maintenance Squadron is comprised of two Flights; Equipment Maintenance and Component Repair. Each flight is further divided into three elements. The Equipment Maintenance Flight is made up of AGE, Fabrication, and Munitions Elements. The Component Repair Flight includes the Avionics, Propulsion, and Accessory Elements.*

*The standard of excellence that we enjoy today is due in large part to previous members too numerous to mention and we owe them our thanks.*

The beginning of 2010 found the 114th MXG with 151 personnel deployed in support of Operation Iraqi Freedom during December 2009 to February 2010.

The past year also brought an aircraft conversion from Block 30 F-16s to Block 40 F-16s. The departure of our Block 30 aircraft consisted of reassigning all 20 fighter jets. Three were transferred to other Air National Guard units and the remaining 17 aircraft were prepared for reassignment to the Aerospace Maintenance and Regeneration Group at Davis-Monthan Air Force Base in Tucson, Ariz. AMARG is more commonly known as “The Bone Yard.” There was an extensive amount of hours invested in preparing each jet for its departure while retaining their serviceability. Some of the decommissioned aircraft will be made available for foreign sales, some will be used for drones, and others will simply be used for parts.

Our first aircraft left Joe Foss Field in April, with the last tail number leaving in October. At the same time, the 114th MXG focused upon accepting 22 Block 40 F-16s from Hill Air Force Base, Utah. The acceptance of these aircraft began in April as well and the 114th MXG accepted the aircraft in groups of six, six, and ten aircraft. The final acceptance of aircraft occurred in September. The jets were thoroughly inspected upon their arrival at Joe Foss Field providing unit pilots with the safest aircraft available.

Fiscal Year 2010 was a very productive year for the 114th Fighter Wing flying program. In addition to the AEF statistics previously mentioned, 1,786 local sorties were flown for a total

of 2,481 flying hours. The 114th MXG achieved a Mission Capable rate of 74.47 percent for Fiscal Year 2010, exceeding the 114th FW goal of 72 percent, and surpassing the Air National Guard goal of 69 percent. In addition, the unit incurred a 3.35 percent Abort Rate, exceeding the 114th FW goal of 4 percent.

The 114th MXG experienced personnel changes as well throughout the course of the year. In April, they said goodbye to Col. Wayne Shanks, who was reassigned as the Assistant Adjutant General for Air and promoted to the rank of brigadier general. Lt. Col. Joel DeGroot vacated the Deputy Maintenance Group commander office to replace him. The Deputy Commander office was, in turn, filled by Lt. Col. Ed Vander Wolde who came from the 114th LRS.

The conversion from Block 30 to Block 40 aircraft also brought a new manning document for the 114th MXG. This conversion resulted in 51 fewer military positions, with the 114th MXG ending 2010 with 481 military personnel. The knowledge of the maintenance personnel continued to be recognized and valued Air Force-wide as many of Airmen were tasked to augment inspection teams, evaluate Operational Readiness Exercises, and perform Staff Assistance visits.

Following an AEF deployment in support of Operation Iraqi Freedom, the 114th was tasked with supporting a 3,700 hour F-16 flying schedule. Our routine F-16 flying schedule consisted of eight morning flights eight afternoon flights, while supporting a 4-ship alert mission at Langley Air Force Base. Due to the relentless dedication and hard work by the 114th Maintenance Group, the wing flew 2,616 sorties while maintaining an impressive 74 percent mission capable rate – 10 percent over the ANG average.

2009 began with our experts in the Metals Technology shop developing and performing a first time field level repair procedure on several F-16 canopy frames. By successfully carrying out the repair procedure on two aircraft canopies for the 114th Fighter Wing, mission essential aircraft were saved from indefinite grounding since canopy frames are no longer in the supply system. This repair is now used across the Air National Guard fighter community as a common field level repair. Our unit was asked to kit-proof two Time Compliance Technical Order kits prior to being released to the entire F-16 fleet. One is a critical safety enhancement of the landing light while the other is a software configuration upgrade to seven of the avionics and weapons systems.

Technical data was verified along with troubleshooting and resource validation. To close out a busy year, over 250 maintainers, aircraft, and support equipment are deployed once again in support of OIF. There is no question that our performance will be exceptional and we will successfully complete every mission tasked.

The mission of the 114th Maintenance Group is to ensure that aircraft and equipment are safe, serviceable and properly configured to achieve mission requirements. The 114th MXG comprises approximately 494 members and is organized into three assigned units: 114th Maintenance Squadron, 114th Aircraft Maintenance Squadron and the 114th Maintenance Operations Flight. The professionals in the 114th MXG are tasked to inspect, repair, overhaul, modify, test and analyze the assigned aircraft and equipment and to ensure air worthiness and serviceability.

The beginning of 2011 found the 114th MXG with 22 newly assigned Block 40 aircraft manufactured in 1988, with an average fleet time of more than 6,300 hours. Maintenance's main focus was to get the new fleet accepted, upgraded and airworthy as soon as possible. Fifteen of the aircraft were sent back to depot for work on the 341 bulkheads, eight each were repaired and extended 6,000 hours and the other seven had complete replacements. With these transactions underway, the 114th MXG also performed the Beyond Line of Sight modification, new advanced IFF (AN/APX-124), modular mission computer upgrades and the embedded GPS/INS (EGI) modification to all aircraft. 2011 was also a productive year for the 114th FW flying program. Along with the maintenance previously mentioned, 1,700 local sorties were flown for a total of 2,497 flying hours. The 114th supported deployments to Tucson, Ariz., for Snowbird, Jacksonville, Fla., and Northern Lightning and Sentry Eagle. The 114th MXG experienced personnel changes throughout the course of the year.

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Air Force Order of Battle

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Sources