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A United States Air Force fighter squadron's experiences in Afghanistan in 2011: a personal perspective

a paper based on an address to the Institute on 25 February 2014 by

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Colonel Ingeman recounts some of his recent experiences as commander of 555th Fighter Squadron, United States Air Force, providing combat airpower on demand to United States and NATO² combatant commanders in Afghanistan.

Key words: United States Air Force; Afghanistan; F-16 fighter aircraft; 555th Fighter Squadron; close air support.

The 555th Fighter Squadron History

In June of 2010, I was presented with the honour and privilege of taking command of the 555th Fighter Squadron at Aviano Air Base, Italy. I inherited a well-trained and disciplined unit with a rich history in bomber and fighter aircraft dating back to World War II. The 555th Fighter Squadron, or 'Triple Nickel'³ as it is known to its members, was initially commissioned as a B-26 medium bomber squadron, flying in France in the Second World War. It transitioned to the A-26 light bomber prior to the end of the war and was decommissioned at war's end. The Nickel was re-commissioned as an F-4 fighter-bomber squadron during Vietnam and flew valorously, scoring 39 aerial victories while serving under the famous fighter pilot and ace, Robin Olds, who was the wing commander. After Vietnam the Triple Nickel moved to Luke Air Force Base as an F-15 and F-15E tactical fighter training squadron until finally moving to Aviano in the late 1990s and transitioning to its present aircraft, the F-16 multi-role fighter. The squadron subsequently took part in multiple conflicts in the Balkans and Middle East, acquitting itself extremely well as a multi-role fighter unit with aerial victories and precision surface attacks.

With the Nickel's outstanding record in mind, I stood at attention and accepted the squadron standard, pondering our upcoming deployment to Bagram Air Field in Afghanistan, less than 10 months away. In this article, I will describe that deployment to Afghanistan and the squadron's experiences there. I will cover our pre-deployment training, our experiences in theatre, and some of the lessons that we took away. With the luxury of hindsight, I will highlight the training, actions, and activities that I believe contributed most to the squadron's success and provide some combat examples where those activities paid off.

The Mission

First, I should define the Nickel's mission in Afghanistan: close air support (CAS). CAS is defined as "air action by fixed-winged or rotary-winged aircraft against hostile targets that are close to friendly ground or naval forces and which requires detailed integration of each air mission with fire and movement of these forces". In the Afghanistan context, this usually meant that friendly ground forces were under threat or being attacked by seen or unseen insurgents in close proximity. Fighter aircraft were directed to support these friendly forces by coordinating with an embedded Air Force joint terminal attack controller (JTAC), to use escalating measures, ultimately culminating in a weapons attack if necessary, to ensure safe withdrawal of the ground force. The important part of the CAS definition is the *detailed integration* part. This is accomplished by verbal communication between the pilot and JTAC to pass information such as friendly and enemy locations, force composition, movements, and desired support. Attack coordination is accomplished through the passing of a 9-line message that includes, among other things, target location and elevation. This makes possible precision weapons employment which is a necessity when working in close proximity to friendly forces. CAS is by nature a support mission whereby aircrew do their utmost to safeguard their ground force brethren.

To inculcate that culture in the Nickel our deployed mission statement read: *Professional Combat Air Power Delivered to the Ground Commander with Disciplined and Decisive Execution*. The squadron focus of 'Excellence in Execution' and culture of 'Transparent Assessment Leading to Mutual Improvement' sent the message that the CAS mission is about disciplined protection of the friendly forces while decisively destroying the enemy if necessary.

The F-16 Fighter Aircraft

The squadron's assigned aircraft was the F-16 Fighting Falcon. The F-16 is a single-seat, single-engine, multi-role fighter aircraft. It is highly maneuverable and has proven itself in air-to-air combat and air-to-surface attack. Designed initially as an air superiority day fighter, it

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²North Atlantic Treaty Organisation

³This nickname is derived from that of the United States 5-cent coin, 'The Nickel'.

subsequently evolved into a successful all-weather multi-role aircraft. It has numerous innovations including a frameless bubble canopy for better visibility, a side-mounted control stick to ease control while manoeuvring, a seat reclined 30 degrees to reduce the effect of g-forces on the pilot, and a relaxed static stability/fly-by-wire flight control system which helps to make it a nimble aircraft. It has an internal M61 Vulcan cannon and 11 locations for mounting weapons and other mission equipment. Its official name is 'Fighting Falcon', but 'Viper' is commonly used by its pilots, due to a perceived resemblance to a viper snake.

In Afghanistan the standard combat weapons load included four 500lb bombs, two of which were GPS guided, and two that could be guided by GPS alone or enhanced by laser guidance. The internal cannon was loaded with 510 high-explosive incendiary rounds, and for surveillance, positive identification, and precision attack, the aircraft carried an infrared and electro-optical targeting pod with a laser designator.

In the latter stages of our deployment, the squadron requested and was approved to carry 2.75-inch rockets to reduce collateral damage potential (compared with 500lb bombs) and increase desired weapons effect (compared with strafe attacks). The rockets filled the gap well and proved to be very effective. It is important to note the weapons mix because it provided a capability to attack static or moving targets and was fairly well matched to the typical target set – Taliban insurgent fighters.

Squadron Composition

A fighter squadron is a team. The pilots fly the combat missions, but it takes a skilled team of support and maintenance professionals to make getting airborne and back on the deck everyday possible. For our deployment, we took 33 pilots, four intelligence personnel, four administrative personnel, six flight equipment technicians, and approximately 100 maintenance personnel. The support was outstanding. The squadron never lacked for combat-ready aircraft, and personnel from each of the support sections won awards at the group and wing level for their performance. It is worth mentioning that we deployed with two or three more pilots than was typical at the time, but ultimately that decision provided the squadron with the flexibility to support flying surges, alert tasking, and to develop liaison and other programmes with ground forces in our area of operations. I will mention those activities again in the section on innovation and adaptation.

Pre-deployment Training

I believe that this was one of the three major keys to the squadron's success in theatre. Train like you fight.



*A 'Triple Nickel' F-16 taxiing at Bagram Air Base
[Photo: United States Air Force]*

Rigorous and realistic training made actual combat missions seem simpler than many of the training missions we executed. Our pre-deployment training started a year prior to our deployment to Afghanistan with four weapons training deployments to tactical bombing ranges in Spain, Turkey, Israel, and Sweden in succession. At each of these locations, the squadron focused on weapons qualifications, pilot upgrades, close air support execution, and Special Forces coordination. Consistent and prolific weapons employments fostered confidence in weapons loaders and pilots. Our maintenance and support personnel became accustomed to the pace of constant, high turn-rate schedules and formed a team with the pilots to execute an aggressive training schedule. Based on advice passed from in theatre that 2.75-inch rockets could provide additional capability against insurgents, we ensured that every pilot was qualified on rocket employment. This action paid dividends in theatre when rockets were approved, in part because the squadron had documented proof of qualification and training for every pilot.

In addition to the weapons training deployments, the squadron's designated official pre-deployment spin-up began in January 2011 with a Green Flag exercise flown out of Nellis Air Force Base (AFB), Nevada. This training focused on close air support with the Army units that we would soon support in theatre during the deployment. The range setup, scenarios, and terrain provided realistic training that started at the basic level and grew in complexity as the weeks progressed. As follow-on training to the Green Flag exercise, the squadron executed a two-week deployment to Hill AFB, Utah, to utilize the massive tactical range facilities located there. The squadron focused intensely on close air support scenarios against small and difficult-to-track targets, night missions in high elevations and mountainous terrain, and coordination with Special Forces JTACs calling in air strikes with live weapons.

Once back in Italy, the squadron executed a 'top-off' CAS exercise utilizing local and deployed JTACs in the mountainous Italian Alps around Aviano to present challenging scenarios where attack direction and targeting pod capture of the target would be affected by terrain. These types of problems would prove to be an accurate representation of Afghanistan's challenges to CAS fighters.

Finally, three weeks prior to squadron's planned deployment to Afghanistan, we were directed to execute combat operations in Libya from home station in order to protect civilians under threat from government forces in Benghazi. The resulting combat sorties, live weapons employments, and 'fog of war' experiences served to further refine and prepare the squadron for Afghanistan.

To enhance the tactical training scenarios during our deployments and home-station training, the squadron weapons and tactics officer created a training syllabus consisting of academic lessons, weapons qualifications, simulated weapons employments, and repetitive avionics exercises. These exercises promoted 'muscle memory' so that complex switch actuations, nicknamed the 'piccolo drill', were second nature in combat situations and did not require deliberate and time-consuming concentration. Most important of these exercises was the repetition of,

and strict adherence to, the pre-attack checklist. This checklist ensured that the target coordinates were correct, weapons were selected and sequenced correctly, rules of engagement were complied with, and attack clearance had been given. I have no doubt that pilot adherence and verbalization of the pre-attack checklist contributed greatly to the squadron's complete avoidance of civilian casualties or fratricide (friendly casualties) during our deployment.

The Area of Responsibility

Afghanistan is a relatively large country when one is responsible to provide 'immediate' combat air support, within minutes, anywhere within its borders. Even deploying to Afghanistan is difficult due to the distances involved and borders necessary to cross to reach the landlocked state. Once in theatre, and flying from Bagram Air Base which is approximately 10 nautical miles north of Kabul, the Nickel pilots flew missions to nearly every border of the country. That said, our main area of responsibility was Regional Command East (RC-East) which consisted of the mountains and valleys north, east, and southeast of Bagram, reaching all the way to the Pakistan border. This area is where the majority of Taliban enter and exit from Afghanistan and much of the insurgent activities take place. Regardless of the activities on the ground, flying over the Afghanistan landscape is quite beautiful and dichotomous with the war raging below. With snow-covered peaks, green valleys, deep canyons, red desert plains, and azure reservoirs, one could easily mistake it for a tourist destination from the aerial perspective.

Bagram Air Field is an Army administered base with an 11,000 foot runway built originally by the Russians. It is oriented about 040 degrees which is unfortunately about 90 degrees out from the prevailing winds in the summertime, causing crosswind



A 'Triple Nickel' F-16 taking off from Bagram Air Base
[Photo: United States Air Force]

issues when the winds increase. The fighter ramp sits on the east side of the runway about midfield. From the air, Bagram looked like a packed city with a runway down the middle and 35,000 people trying to manoeuvre around the base.

Daily Routine and Typical Missions

On a typical day, the pilots would arrive at the squadron operations building in shifts throughout the day and night. The squadron flew a constant flow of sorties with a minimum of two jets airborne 24 hours a day, seven days a week for nearly seven months. Upon arrival at the squadron the pilot would sanitize his uniform of badges and insignia and prepare for the flight briefing. During the flight brief, an Army ground liaison officer (GLO) would brief any pre-planned CAS mission details, intelligence personnel would brief the latest information, the weather man would provide a forecast and then the flight leader

would brief the mission.

A typical mission lasted about four to five hours and would include about three air refuellings with airborne tankers. Without air refuelling the missions would have been short and sweet and much of the country would



A 'Triple Nickel' F-16 on combat air patrol over eastern Afghanistan.
[Photo: United States Air Force]

have been unreachable by fighters. Almost all CAS missions began as pre-planned CAS where fighters provide armed over-watch or surveillance for troops moving through the countryside. Often a pre-planned CAS mission would be interrupted by an immediate or re-rolled CAS mission to support a troops-in-contact (TIC) situation. TICs always got a pilot's heart pumping because he knew someone was getting shot at and there could already be casualties. During these re-rolls, it was very important to be familiar with the avionics actions required to quickly setup and navigate to the next TIC location. Additionally, it was vital to maintain a cool demeanour when arriving into a chaotic combat situation where lives were at stake. Often the calm radio responses of the pilot buoyed the ground forces and several times pilots caught mistakes in target coordinates passed to them that could have been disastrous. Finally, experience and knowing what to look for on arrival at a TIC was extremely important to a successful outcome. This last concept is where continuation training was beneficial.

Continuation Training

This is the second of the three keys to our success in theatre. It was a simple concept that we continued and expanded upon from the squadron that we replaced. Continuation training consisted of an academic component held twice every Tuesday so the day and night flyers could attend, and a flying component that was ad hoc. In the academic component, the squadron weapons officer presented tactical topics, scenarios, and new procedures. Pointedly, he would have two pilots simulate dealing with a challenging tactical scenario that had actually taken place that week on one of the squadron's missions. The pilots would run through the scenario, dealing with the situation as best they could, then the audience and weapons officer would critique their performance. The results were profound. Instead of one or two pilots experiencing a tough mission, and finding solutions to remember for later, the entire squadron was exposed to the situation and experienced it as well. This served to quickly season even the youngest pilots and standardize experience levels and procedures throughout the squadron. It made flight decisions quicker and shortened the kill chain.⁴

⁴The kill chain is the time taken to undertake an attack from inception to execution.

The flying component of continuation training was also effective in shortening the kill chain by keeping critical cockpit attack skills fresh with repetitive practice on a training range in theatre. After flying many missions without live attacks, critical skills atrophy and the use of complex, high-technology avionics and weapons systems slows down. Spending a few minutes practicing those skills on a training range at end of a sortie encouraged and redeveloped the muscle memory and quick reactions required in combat situations.

Tactical Innovation in Theatre

This was the third key to the squadron's performance in Afghanistan. We came up against several difficult scenarios and insurgent tactics while in theatre and each time members of the squadron either individually or in discussions and debates with a group innovated new and effective ways to use our existing tactics, techniques, and procedures. As enemy tactics evolved, our tactics evolved in kind. I will give you an example: insurgents began using motorcycles and mortars to attack forward operating bases to the south of Bagram. At the height of the attacks, the bases were receiving mortars nearly every day causing injuries and damage to equipment. The problem was that the insurgents could escape quickly on the motorcycle and use small towns for cover making the risk of collateral damage too high to commence an attack. After two unsuccessful attempts to eliminate the insurgent activities, the squadron developed a tactic to isolate the insurgents from the motorcycle using a strafe attack and a follow-on attack. One flight member kept the insurgents under continuous observation while the other flight member commenced the attacks. This technique was successful on 13 of 13 attempts and within weeks insurgent attacks fell to less than three a month. The squadron also innovated troops-in-contact handover techniques, casualty evacuation helicopter escort, and rocket attack techniques. On their days off, pilots developed a liaison programme with the JTACs in our area. This became extremely popular with the ground forces as pilots travelled to forward operating bases to meet with the ground forces, brief new tactics, and coordinate shortening the kill chain. All in all, innovation was of primary importance to the squadron's effectiveness.

Combat Example

I will end with an example of the employment of avionics and modern technology to swiftly and safely resolve a troops-in-contact situation. Two Nickel pilots were providing armed over-watch to a convoy of Army vehicles. The vehicles were proceeding south down a winding dirt road flanked to the east by high terrain and hills. Just as the lead vehicle came to a stop to test its 50-calibre weapon, an improvised explosive device (IED) detonated 20 metres in front of it. Immediately, the front several vehicles received accurate fire from the hills to the east. The lead vehicle returned fire with its 50-calibre weapon. The flight lead could see the 50-calibre's bullet impacts and asked the JTAC if the impact point

was at the location of the insurgents. When the answer returned confirming that it was in fact the location of the insurgents, he used his helmet-mounted cueing system to position the targeting pod on the impacts; he then derived accurate coordinates for that point on the ground using his laser and passed them to the JTAC.

The JTAC then responded by passing a 9-line attack brief to the pilot requesting a strafe attack. The flight lead read back the 9-line, passed the coordinates of the target to his wingman via data link and directed him to run his pre-attack checklist for a strafe attack. The flight lead then lased a spot on the ground at the target coordinates to provide a symbol for his wingman to strafe. Within seconds, his wingman rolled in and strafed the enemy fighting position. The enemy shooting stopped. When it began again a few minutes later, the JTAC requested a re-attack with a 500lb bomb and passed the new 9-line. The flight lead assessed the rules of engagement, collateral damage estimate, and danger close ranges for the friendly forces and, using range rings in his targeting pod, determined they were well clear. He commenced the attack within minutes and after weapon impact the insurgent threat was eliminated. The convoy proceeded to base unharmed. The swiftness and accuracy of the attacks were enabled by cutting edge technology, practised familiarity with complex avionic procedures, and muscle memory gained through training repetition.

Conclusion

During its Afghanistan deployment, 555th Fighter Squadron flew over 3500 sorties and over 13,000 flying hours. It employed weapons 775 times and there were no resulting civilian casualties or fratricide incidents. It was ranked No. 1 of 10 operations squadrons at Bagram Air Base; and in 2011 received the Aviano Fighter Squadron of the Year and Headquarters United States Air Force Europe Fighter Squadron of the Year awards. These achievements were enabled by thorough pre-deployment training, coupled with rigorous continuation training and innovation in theatre, as well as outstanding squadron personnel.

The Author: Lieutenant Colonel Karl D. ('Buzz') Ingeman has been serving on exchange from the United States Air Force with the Royal Australian Air Force at Air Headquarters, Glenbrook, NSW, since July 2012. He entered the United States Air Force in 1991 and is now a command pilot with more than 3000 hours' flight time on F-16, T-38, T-37 and Jaguar aircraft and has flown 534 combat hours. In 2010–2011, he was Commander of 555th Fighter Squadron ('Triple Nickel'), 31st Fighter Wing, Aviano Air Base, Italy, providing combat airpower on demand to United States and NATO combatant commanders. He has been awarded the Meritorious Service Medal with three oak leaf clusters; Air Medal with four oak leaf clusters; Aerial Achievement Medal; Joint Service Commendation Medal; and Air Force Commendation Medal. [Photo of Colonel Ingeman: Colonel J. M. Hutcheson, MC]