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ÊTRE AU RENDEZ-VOUS

Par le Général d'armée aérienne
André Lanata

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Directrice de publication / Rédactrice en chef

Murielle Delaporte
m.delaporte-laird@operationnels.com
06 89 74 24 31

Direction artistique

Sophie Lacoste
sophie.lacoste.13@orange.fr
06 07 05 58 94

Communication et développement

Chantal Plessier-Dauvergne
ch.plessierdauvergne@operationnels.com
06 81 88 45 91

Direction publicités

Sylvana Desforges
sylvana.desforges@operationnels.com
06 10 17 29 41

Analystes

Lieutenant-Colonel (R) Michel Klen
Général de corps d'armée (2S) Pierre Niclot
Commissaire principal des armées (CR) Romain Petit
Ingénieur général hors classe de l'armement (2S)
Louis-Alain Roche

Journalistes

Mickaël Laustriat
Frédéric Lert
Todd Miller
Adjudant-Chef Jean-Laurent Nijean

Photoreporter

Lieutenant-Colonel (R) Pascal Podlaziwicz

Contributeurs et Interviewés

Commandant B.
Commandant Cyril
Capitaine Edouard
Colonel Pete Fesler
Sergent-chef G.
Sergent-chef Karen
Général d'armée aérienne André Lanata
Sergent-chef P.
Pilotes Rafale BAP Jordanie (4)
Commandant Romain
Ingénieur général hors classe de l'armement
Jean-Marc Rebert
Colonel Tanguy

Relecture

Nicole Cointement

Impression

Imprimerie de Champagne
Groupe Graphicom (Langres)

Abonnement

abonnements@operationnels.com
06 89 74 24 31

Site internet Operationnels.com

Murielle Delaporte
Brian Hasenkamp
Christian Khun
Marc Passarelli
Romain Petit
Hélène Rolet
Clara Tanielian

Site internet sldmag.com

Aude Gerlat
Julie Guibault
Timothée Rolin
(www.rolin-guibault.com)

Réseaux sociaux

Murielle Delaporte

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Photo de couverture : Première mission de nuit pendant l'opération Chammal contre l'« Etat Islamique »: cette mission avait mis en œuvre un C135FR pour le ravitaillement en vol et deux Rafale équipés de quatre bombes GBU 12, d'un pod de désignation laser Damoclès et d'un missile air-air Mica © Jean-Luc Brunet, armée de l'Air, 2014

éditorial

« Chacun est responsable de tous.
Chacun est seul responsable.
Chacun est seul responsable de tous. »
(Antoine de Saint-Exupéry)

SE DONNER LES MOYENS

Par Murielle Delaporte

L'armée de l'Air est actuellement engagée sur de multiples théâtres d'opération en Afrique, au Moyen Orient et en Europe de l'Est. Hors territoire national, ce sont mille huit cent aviateurs qui sont déployés sur cinq bases projetées ou prépositionnées, soit un niveau d'engagement extérieur deux fois supérieur à celui prévu par le Livre Blanc de 2013. A cela s'ajoute le fait que ces opérations ont gagné en intensité avec un niveau de frappes que l'on n'avait pas connu depuis des décennies.

Lors d'une visite récente auprès des Forces françaises déployées aux Emirats arabes unis (FFEAU), le Major général de l'armée de l'Air, le Général de corps aérien Philippe Adam, a rendu hommage à la capacité d'adaptation et à l'intelligence de situation, dont font preuve les Aviateurs au quotidien depuis les bases prépositionnées comme Al Daffra et Djibouti et les bases avancées projetées comme la BAP de Jordanie. Il a salué l'engagement quotidien des forces au service de la France et l'efficacité du système de combat situé au cœur du Golfe Persique permettant de mener à bien des opérations, lesquelles constituent « la raison d'être, le moteur et la crédibilité » de l'armée de l'Air et contribuent à la protection des Français en luttant depuis 2014 contre les groupes armés terroristes.

Accompagné du Général de corps aérien Rony Lobjoit, Directeur des ressources humaines de l'armée de l'Air, ce déplacement, qui incluait également la BAP de Jordanie et Djibouti, était destiné à adresser un message aux personnels actuellement déployés en flux particulièrement tendus, à savoir que « toute l'armée de l'Air est derrière [eux] » et travaille à améliorer la situation en permanence.

C'est cette préoccupation « RH » comme facteur limitant et soulignée par le Général d'armée aérienne André Lanata, Chef d'état-major de l'armée de l'Air, dans l'introduction de ce numéro, qui transparait tout au long des différents reportages à découvrir dans les pages qui suivent. Ces derniers nous emmènent sur le théâtre Chammal (y compris en Irak) et à Barkhane, mais aussi aux Etats-Unis, à Langley en Virginie, où la Patrouille de France a fait parler d'elle ces derniers mois en marge de l'exercice interalliés Atlantic Trident 2017, et en métropole sur la Base aérienne de Cognac, où – autre sujet d'actualité et de débat que relance le récent rapport du Sénat à propos des drones armés – la montée en puissance du Reaper est en cours.

Ce dossier dédié à l'armée de l'Air est construit non pas par théâtre, mais s'articule autour de quatre moyens et capacités essentiels, dont celle-ci a besoin pour mener à bien tout le spectre des opérations actuelles :

- Les moyens de frappe aérienne
- Les moyens de renseignement et de reconnaissance
- Les moyens de transport
- L'entraînement en interalliés

De ces reportages ressort par ailleurs l'avancée de la révolution de l'information en cours en soulignant la complémentarité des moyens de recueil et d'analyse et le développement des modes de partage de données, tels les liaisons tactiques et satellitaires. Une révolution qui, comme le soulignent le Général (2S) Niclot et l'Ingénieur général hors classe de l'armement Rebert, directeur central du Service industriel aéronautique, transforme tout autant en interne le monde industriel qui la génère. L'amélioration de la disponibilité de l'A400M tient de fait, pour une part, à l'accélération de ces échanges de données entre utilisateurs et industriels.

Si ce double-numéro « spécial Salon du Bourget » fait la part belle aux sujets aéronautiques, vous retrouverez bien-sûr comme d'habitude nos rubriques habituelles en deuxième partie.

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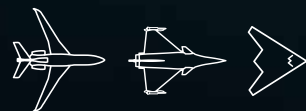
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Ensemble plus loin



The fight is on! Red Air pulling G with the 71st FTS «Ironmen» T-38 Talon flown by « Code.»



ATLANTIC TRIDENT 2017: Taking Integration Beyond

An Interview With USAF Colonel Pete “Coach” Fesler,
1st Fighter Wing Commander

> Text and images by Todd Miller, Aviation reporter

Atlantic Trident '17 brought together in type and capability the most advanced 21st century allied combat fighter force being flown today. The exercise held April 12 – 28 at Joint Base Langley-Eustice (JBLE) included a “Blue Air” force of USAF F-22 Raptors of the 1st Fighter Wing (FW) JBLE and F-35 LightningIIs from Eglin AFB, Typhoons of the Royal Air Force (RAF) and Rafales of the French Air Force/ Armée de l’Air (FAF).

The adversaries or “Red Air” included USAF F-15E Strike Eagles of the 391st FS “Bold Tigers” Mountain Home AFB, ID and T-38A Talons of the 71st Fighter Training Squadron (FTS) “Ironmen” based at JBLE. Additional assets included the E-3A Sentry from Tinker AFB, OK and a variety of tankers, including a FAF KC-135 and KC-10 of the 305th Air Mobility Wing (AMW) out of Joint Base McGuire-Dix-Lakehurst, NJ.

Aside from the primary training objectives the exercise also provided the opportunity to commemorate 100 years of aerial combat cooperation between the French and US stemming back to WW I.

From the outside looking in the lethal capabilities of Blue Air appeared to be overwhelming, with Red Air offering little challenge. However, one must consider that the 71st FTS “Ironmen” fly daily as adversaries against the Raptor and possess pilots with Raptor experience. These factors (along with the sheer numbers of Red Air fielded and their ability to “regenerate” on range) provide Red Air with the best likelihood to exploit any vulnerabilities or errors with Blue Air’s tactics – regardless their impressive platforms.

THE EVOLUTION OF AIR COMBAT IN THE CONTEXT OF 5TH GEN AIRCRAFT.

On a broad level the USAF anticipates any future conflict to be fought with a coalition of allies.

Exercises such as Red Flag (Nellis AFB) and Red Flag Alaska, Pitch Black (hosted by Australia), Frisian Flag (Netherlands) and many others integrate Tactics, Techniques and Procedures (TTPs) among participants. When the next conflict arises, the USAF and relevant coalition partners will be familiar with TTPs, and integrate day one into an effective aerial fighting force.

Interviewed towards the end of the exercise, Colonel Pete “Coach” Fesler, 1 FW Commander noted that “Atlantic Trident ’17 took integration beyond historical practice. (...) On a tactical level integration historically involved a serial employment of aircraft [such as a Combat Air Patrol of RAF Typhoons] or geographical deconfliction of aircraft [such as FAF assets attacking ground targets in a designated area].” However, as Fesler explained that starting with “Red Flag 17-1, integration has gone deeper, involving a variety of platforms in the same airspace at the same time. Integration between platforms also considered the various loiter time and weapons load/type for a given platform over a given vulnerability period [or vul – the period of time when an aircraft is vulnerable to harm].”

While not being specific, it is not difficult to envision a mixed strike package of Rafales and F-35s, a combat air patrol of Typhoons and Raptors (or mix and match on any given mission set). This level of integration leads to big challenges for an adversary who may easily be fixated on attacking a detected Gen 4.5 aircraft, while getting blindsided by a 5th Gen platform or a be distracted by a 5th Gen threat “sensed” in the area and get bounced by a very capable Typhoon or Rafale.

Hesitation in such air-to-air combat will most likely be punished with an ending in a ball of flames. This possibility will certainly lead to an increased wariness on the part of an adversary. Given the high SA of the 5th Gen aircraft with their much shorter “observe, orient, decide, act” (OODA) loop, the integrated force places an adversary at a distinct disadvantage. A lack of decisiveness in modern air to air combat will most certainly be punished with a bad ending. The ability to intake, consolidate and distribute key elements of real time combat information by a fifth generation enabled combat force



Red Air Vodka 3 inverted and going for 10,000 feet drop

drives a much higher level of integration. Fesler noted that “multiple people/assets may be involved with the finding, identifying and targeting portion of an air to air encounter. The pilot may take care of the final step and fire the missile that kills the target, but wouldn’t have found their way to that merge unless the assets got them there.” This discussion has implications for the debates on the F-35s kill ratios. As Fesler expresses, “without the context, the kill ratio means nothing. For example, what were we asking the F-35 to do at the time, was it predominantly in an air to ground role and only picking up the occasional leaker? Well then that may lead you to the number of 15. But if the F-35 was in a Defensive Counter Air (DCA) role with solely an air to air responsibility, one could expect a fundamentally different number.”

FROM A SINGLE TO MULTIPLE QUARTERBACKS AT PLAY: ALTERING THE CLASSIC AIR TO AIR ENGAGEMENT

Atlantic Trident ’17 provided an opportunity to demonstrate how the advancement of aircraft, tactics and integration is driving change in the function of the fighter force. For many years, the F-22 Raptor has utilized its superior sensors and SA to take the role of “quarterback” during a vul. Given the integration of the F-35 and with weapons/ loiter capabilities of the Typhoon and Rafale, the notion of a “single quarterback” is changing.

Frankly, per Fesler, the quarterback notion is starting to become “almost a misnomer now in that we have multiple quarterbacks and it is less about one individual directing

Given the integration of the F-35 and with weapons/loiter capabilities of the Typhoon and Rafale, the notion of a “single quarterback” is changing

everything and more about multiple nodes of information being able to provide the key pieces of information at the right time to influence the fight.” It is a foreboding thought for an adversary who now faces a team, where every position has the intelligence/capability of a great quarterback, even while performing their specific role at the highest level.

Performing at a high level is one thing, altering the playing field is another. The 5th Gen aircraft has done that very thing, altering the classic air to air engagement in a fundamental way. Fesler noted, “the classic approach of shooting ones missiles and turning before the adversary can get a shot is predicated on the fact that the adversary sees you. In the 4th gen world that is the case. Ideally the pilot would like to be able to shoot, let their missile do the work and get away before the adversary can get a missile off. In the F-22 and F-35 world, the adversary doesn’t necessarily know where you are coming from. The 5th Gen pilot might shoot a missile and monitor to make sure it is effective. If the missile misses for any number of reasons, they are in good position for a follow-up shot. That is one of the fundamental differences between 4th Gen fighters and 5th Gen fighters. In general, in the 5th Gen world the adversary doesn’t really know where you are coming from. They may have a general idea but not a lot of specifics. For 5th Gen pilots it’s a good place to be, to be able to roam around the battlefield faster than the speed of sound in an airplane that is largely undetectable all while your airplane is building a 3

dimensional picture of everything within a couple hundred miles of you.”

Aside from the exceptional technical aspects that draw attention, Fesler ultimately notes that his takeaways from Atlantic Trident ‘17 fall back to the human aspect; “fighter pilots are fighter pilots regardless of what their uniforms look like. Aircraft maintainers are aircraft maintainers regardless of what their uniforms look like. There are some universal experiences, beliefs and cultures that transcend the national boundaries in this and that’s one of the things I have enjoyed out of both Tri-lateral exercises (2015 & AT ‘17) that we’ve had. The man in the machine still makes a difference. You can have the most lethal fighter in the world but if you make a mistake a far inferior aircraft can shoot you out of the sky. Training still matters. If that were not the case, we’d buy the machines, park them and never fly them and when war kicked off jump in them and go and fly, but that in fact is not the case and you can lose a war with the best equipment if you don’t know how to use it right, if your tactics aren’t sound, if your skills aren’t automatic, you can still lose.”

Atlantic Trident ‘17 reveals the way forward; advanced integration, people making a difference, and high level training. This rationale drives the US Air Force working with core allies to try to ensure that it is ready with the highest capability for the next conflict on day 1. In short, 5th Gen brought an evolving approach to integration and evolving A2A tactics to the forefront at Atlantic Trident ‘17.



F-15E Strike Eagles from the 391st FS «Bold Tigers» wait on the ramp for the next Atlantic Trident ‘17 Red Air Vul. This particular Eagle shows it has plenty of experience with markings of scores of bombing missions

Atlantic Trident 17 Red Air, 71st FTS Ironmen (T-38 Talon - Vodka Flight) and the 391st Bold Tigers (F-15E Strike Eagles - Marlin & Dagger Flights) RTB after DCA iwth a Blue Air Strike package of 1st FW F-22 Raptors, Eglin AFB F-35 Lightning II's, French Rafale's and UK Typhoons



FLYING RED AIR AT ATLANTIC TRIDENT 2017: An Intense Play-Off Game

Text and images by Todd Miller

I had a chance to fly with Red Air during Atlantic Trident 2017. The key Red Air platform was the F-15, and the strike eagle has a long and distinguished combat history. Red Air plays a critical part in ensuring total force integration of our finest combat platforms at Atlantic Trident ‘17.

Facing off against an historic gathering of the most formidable fighter aircraft in the world, the F-15s and T-38s faced a formidable task. I was able to catch a seat in one of the “Langley Adversaries” on an actual Red Air vs Blue Air vul (vulnerability period, which references the time when an aircraft is subject to harm). The United States Air Force (USAF) 1st Fighter Wing located at Joint Base Langley-Eustis (JBLE) hosted the event. 1st FW is responsible for 30% of the USAF Raptor fleet. Described as “America’s premier Air Dominance wing,” the 1st FW is elite

company. This group (with the help of the 71st FTS) ensures the Raptors under their command are maintained, manned by skilled pilots, and ready to go when and where needed worldwide, at a moment’s notice.

After two days of rain and scrubbed vuls the clouds began to lift. It didn’t matter, even with clear skies a nasty storm was brewing over the Atlantic, Typhoons, Lightning strikes, with the “gusts of wind / bursts of fire” (Rafale), and the “Bird of Prey” (Raptor) circling over it all. Not exactly a Hollywood script, but this is the real world. And what awaits the Strike Eagles and Talons of Red Air posing as a variety of MIG threats with specific missile emulations.

• **The Platforms & Players : 12 Red Air with E-3A Sentry support, against 16 Blue Air - Blue Air:** 1st FW F-22A Raptors; Eglin AFB



F-15E of the 389th FS «Thunderbolts» Mountain Home AFB, ID launches from JBLE for Red Air Vul during Atlantic Trident '17

F-35A Lightning IIs; Royal Air Force (RAF) Eurofighter Typhoons; French Air Force/Armée de l'air Dassault Rafales.

- **Red Air:** 71st FTS "Ironmen" T-38A Talons; 391st FS "Bold Tigers" F-15E Strike Eagles from Mountain Home AFB, ID.

Given operational security, some of the following flight details are principally correct. The six participating Talons flew in two flights of three, "Vodka" and "MIG". The Strike Eagle flights "Marlin" and "Dagger" combined to form another 6 aircraft.

Given Blue Air was farthest from JBLE and launched first, they enjoyed tanker support from the Armée de l'air KC-135, as well as US tanker units (including at one point a KC-10 from the 305th AMW Joint Base McGuire-Dix-Lakehurst).

• What could we expect of the vul?

Red Air understood that Blue Air was tasked with a strike mission (target location unknown to Red Air) using the Rafale and Raptor as strikers. While some might think the F-35As should have been the strikers, Raptor was the word and Raptors do have a very effective strike capability.

The rest of Blue Air, Typhoons and Lightning IIs (and perhaps a mix of Raptors) were flying escort protecting the strikers.

• The Challenge

Blue Air was challenged to employ "total force integration" across nationalities and platforms to form a multilayered, overlapping sphere of impenetrable "armor." Certainly, Blue Air would utilize their superior sensors to create a 3D picture of the battle space and their state of the art weapons to "destroy" Red Air well beyond visual range (BVR).

Red Air would utilize dissimilar threats against Blue Air coming from a multitude of directions and altitudes. The Talons and Strike Eagles primary goal was to find the Blue Air strikers (call sign "Rogue"), fight through the escorts to get within an effective (emulated) missile envelope and realize a kill. However, even if a visual on a Raptor or Lightning II was realized (and Red Air had the radar capability) they would still be "chasing a mirage" and could not expect to get a lock. Total force integration of the Gen 5 and 4.5 platforms creates a nasty dilemma for a real adversary. At the best of times target fixation is deadly, add 5th Gen assets in the mix – fatal. While the scenario sounds like a futile effort for Red Air, it is key to understand that this exercise is not a game where the highest kills wins. Rather, the primary purpose of the exercise is to ensure Blue Air (our collective nations fighting edge) refine Tactics, Techniques and Procedures (TTPs). With common, familiar TTPs, the coalition will quickly come together in the face of a future conflict and be effective, day one.

The coalition of Blue Air was challenged to maximize their mix to most efficiently use each aircraft's exceptional capabilities, weapons loads and available fuel. The best efforts of Red Air would test the tactics of Blue Air, to ensure they overlook nothing, and responded correctly to the dynamic of the fight. If a Blue Air participant required a learning lesson – it was up to Red Air to provide it, and this is the right time and place to do so. In the "fog of war" an area of the formation might well be left uncovered, and Red Air would get a leaker through to do some damage.

The 71st FTS fields young pilots preparing

for the Raptor as well as seasoned Raptor pilots and pilots with plenty of experience in alternate platforms. One look at the markings on the F-15E Strike Eagles of the "Bold Tigers" and it was clear there is plenty of combat experience in those cockpits.

No question, this group of pilots had the ability to take down a Blue Air player. In a previous visit to the 71st FTS I met one of the T-38 pilots who had done that very thing. I expect it was a lesson that resonated with the Raptor pilot.

• The Experience

Waiting in open cockpit at the end of runway (EOR) Blue Air completes their launches, and our teammates in F-15Es thunder down the runway in glorious afterburner. Following MIG flight, Vodka flight of Talons launches last, one at a time in rapid succession. We form up at 2000 ft before punching through the clouds in formation.

I'm back seat of Vodka #3 flown by "Code," (1st Lt.) in tight our flight lead #1 "Shim" (Maj.) and #2 "HOTAS" (Maj). Within seconds we break through the clouds and the Talons look like beautiful black darts in the blue sky. The SR-71 Blackbird clearly established that "black jets" are the coolest, so we are in good company.

The aircraft are stable and the pilots smooth. We stay in formation as we climb to altitude on the way to the fight. MIG flight is now far to the southeast working the opposite flank. Marlin and Dagger are well above us in their own airspace blocks working the higher altitudes. Red Air is tightening the noose. At altitude and nearing our block, Vodka 1 indicates he will run in on Blue Air from 10,000 ft below us. The Talon drops away so fast my perspective is forever altered.

A high-performance aircraft allows the pilot to carve the sky at will shrinking time and space in ways grounded mortals cannot know. With "go time" quickly closing in, Vodka 2 moves some distance from us. Flying almost parallel we form a wall approaching Blue Air. Red Air is attacking in numbers from many different directions and altitudes. Perhaps Blue Air will miss one of us as we close rapidly and a striker will fall!

We now appear to be alone in the sky, a single gunslinger in the expanse with weapons armed and ready against impossible odds. Focus and activity keep the thought at bay, the controllers voice a clear reminder that we are part of a much greater force and we

do not fight alone. "Fights On!" and we fly our vector like an adversary, oblivious to the invisible danger that lurks unseen in the distant (or near) sky.

The next 45 minutes is something of a blur. The controller calls a heading, we turn – someone turns, there is a lot going on in the skies. The tempo increases, the radio crackling with voices. Controllers in the E-3A are busy directing and working what sounds like play by play of an intense play-off game. An intense play-off among warfighters is happening in a rapid time-space environment. Through the intercom Code warns "G's!" I have split second to prepare for a snap turn and the onset of G's. Code is kind, the G's are short lived and light – well under 3.

Within moments I hear the radio crackle, "Vodka 1 you're dead," followed by "Vodka 2 you're dead." Our flight is being picked off like tin cans on fenceposts. I wait to hear Vodka 3 you're dead – but silence. I'm thinking, c'mom Code, this is our chance let's press, I could use a kill on my resume.

Marlin 1, Dagger 2 No, No – not the Strike Eagles!

The coms crackle in warfighter shorthand, best deciphered by those who speak in this language. With a sense of the inevitable, I hear it "Vodka 3 you're dead." No sympathy, just cold, matter of fact. It is done. I don't know what killed us, but we were shadow boxing with a lethal foe.

The USAF and Its Coalition Partners Do Not Want a Fair Fight. As we turn to regenerate it is clear this is not a fair fight. But that is the point, and why the tremendous investment in the 5th Gen aircraft. The USAF has no intention to fight fair, they have built their force to dominate the air. Who owns the air will find it much easier to own the ground and sea.

Looking straight up far above us I see a silver spec blazing across the sky contrail in tow at what appears to be supersonic speeds. A Raptor? It flies with impunity, we are mere spectators. If this was a real fight, seeing such a sight would be a great signal to RTB (return to base). Quickly.

After regen we return to the fight flying a designated vector. Code rolls the Talon inverted, and pulls briefly into a vertical descent and then a great diving arc.

I had about as much as 1/10th a second to prepare for that, and 1/5 a second to enjoy it...

Thank you very much!