

# TEAM SPIRIT

The second 'Atlantic Trident' exercise was held at Joint Base Langley-Eustis, Virginia in April. It brought together the best US Air Force, Royal Air Force and French Air Force fighters for the ultimate team-building experience.

report and photos: **Jamie Hunter**



**T**HIS EXERCISE FITS in somewhere between the local daily training-size missions we fly from here, where you might have four F-22s against eight aggressors, and a 'Red Flag' exercise', explained Col Pete 'Coach' Fesler, commander of the 1st Fighter Wing (FW), from his office overlooking the rows of fighters at Langley. 'Atlantic Trident', or 'TriLat', is geared towards high-end air-to-air combat, the 'near-peer fight' that senior US Air Force officers so regularly speak of. The exercise was timed to coincide with initial celebrations to mark the centenary of the 1st FW, which traces its history back to the Lafayette Escadrille in France during World War One.

This year 'Atlantic Trident' brought together the highest-echelon fighters from the USAF in the shape of the resident F-22A Raptors of the 1st FW, and visiting F-35As from the 58th Fighter Squadron (FS) 'Gorillas' at Eglin Air Force Base, Florida, plus Eurofighter Typhoon FGR4s manned by the Royal Air Force's No 1 (Fighter) Squadron, and Dassault Rafale Bs and Cs from a mixture of units at Mont-de-Marsan and Saint-Dizier.

Referring to the fact that it was planned as a rounded air-to-air exercise, Fesler said: 'We see more of the engagements going into the merge here'. He explained how the missions pitted the friendly 'Blue Forces' against the 'Red Air' aggressors in the well-documented format of traditional large-force employment (LFE) events. 'The reason for that is that 'Red Flag' is a very large exercise that puts 100 airplanes in the air. When you have that many aircraft in the airspace, deconfliction becomes a primary concern. Planners tend to restrict changes in altitude and look for measures to keep people from bumping into one another, particularly when you have stealthy platforms flying around. The fourth-gen platforms are used to seeing who is flying near them, so when they make decisions to transit through a block, they may not know that [the stealth platforms] are there.'

'In those exercises, few of the air-to-air setups get to the merge, whereas here, because we aren't on the scale of a 'Red Flag', we tend to merge more frequently. Also, because it's a smaller group of four core units, we are able to focus on our desired learning objectives. A 'Red Flag' could have up to 36 deployed units,

Above: **A 58th FS F-35A breaks from a formation of F-22, Typhoon FGR4 and Rafale C during 'Atlantic Trident'.**

Left: **An F-22 pilot returns from a mission at Langley.**



However, Fesler did comment: 'From an operational standpoint, does it matter if an F-22 or a Typhoon came out on top in a BFM engagement? Not really, but fighter pilots being fighter pilots, they all want to win. I can tell you that when it comes to it, the pilot matters. You don't just buy victory. A pilot that has a bad day in an F-22 against a pilot that has a good day in another jet, he can still lose. [As a Raptor pilot] I may have the superior platform in every envelope, but I can still lose if I don't do it right. A Rafale or Typhoon driver on his game will win that fight.'

Capt 'Buzz', a French Rafale pilot, told *Combat Aircraft*: 'The first part of the exercise was the chance to dogfight against the F-22 and Typhoon. We flew our jets clean — without [drop] tanks

each with their own objectives, so that tends to dilute the training.'

For the participating units, the exercise was split into three key phases. Week one was familiarization, mainly taking the form of some head-to-head, one-on-one, basic fighter maneuvers (BFM). This pitted the F-22s, Typhoons and Rafales against each other for some good old-fashioned dogfighting. As one would expect, the outcome of this 'sport of kings' stayed in the debriefing room.





— as this is the way to get the best maneuverability in this aircraft.’

**Teamwork**

With the first week complete, the sparring fighters teamed up to form an impressive Blue Force, working together and pitted against the arriving F-15Es of the 391st FS ‘Bold Tigers’ from Mountain Home AFB, Idaho, and the resident gloss-black T-38As of the 71st Fighter Training Squadron (FTS) ‘Ironmen’, which combined to present a credible Red aggressor force. In addition, the Eglin Lightnings joined the fray, to combine with the Raptors, Typhoons and Rafales. That meant that week two was all about the popular theme of fighter integration, with smaller-scale defensive counter-air (DCA) missions. These generally involved the Blue team having to defend a particular point or line in the ranges from the marauding F-15Es and T-38s.

‘Buzz’ elaborated: ‘The main objective for us is to train and to know how to work efficiently with the fifth-gen aircraft like [the] F-22 and F-35 and with the Typhoon. We have got the Link 16 datalink, but the F-22 is not on the link, so we have to learn how to work with

them without this datalink and using the comms. It’s tactically interesting.’ Indeed, for the French Air Force, which has no current prospect of operating stealthy platforms, it was a massive opportunity.

Week three saw things ramping up once again: offensive counter-air and some swing-role missions, including all ‘players’ mixing air-to-air with some air-to-ground. Again, it was all about integrating the friendlies. Fesler says: ‘Integration in the past has sometimes been serial in nature — the F-15s would go out first, then the F-16s behind them. This exercise is far more closely co-ordinated — Raptors, F-35s, Typhoons and Rafales, using the best each airframe has to offer to mask any vulnerabilities. This is real integration instead of just flying in proximity. It’s a mix of machine-to-machine and human-to-human. In the F-22 we are Link 16 receive-only; we do not off-board what we see via datalink, only via voice. Bringing in the F-35, they see what we see and we see what they see. Right now the F-35 as a situational awareness-enhancing tool is probably superior to the F-22, because of that machine-to-machine data exchange.’

Above top to bottom: **The team photo from ‘Atlantic Trident’. Led by an F-22 from the 94th FS, a Blue Force F-35, Typhoon and Rafale are joined by a Red Air T-38A and F-15E.**

**An impressive 12 F-15Es from Mountain Home’s ‘Bold Tigers’ came to Langley en masse to act as ‘bad guys’.**

The exercise used the enormous ocean ranges that are a stone’s throw from Langley. It included a coastal threat array that the Blue team had to negotiate, plus the swarms of F-15Es and T-38s that were typically regenerating up to three times in order to re-enter the fight if they were ‘killed out’. For the ‘Red’ team, the ambition was to drive particular learning objectives in each vulnerability period, or VUL.

According to Lt Col Charles Hebert, the 71st FTS commander and an aggressor pilot, they were there to expose any weaknesses that may exist between the Blue players. ‘The [aggressor pilot] knows how the Raptor employs in a broad sense. Therefore, he knows how to fight against it and may expose weaknesses.’

A 94th FS Raptor pilot explained: ‘We give an initial game-plan during mission planning, poke holes in that plan, and toward the end we pose questions like, ‘well, what if they do this, and how are we going to tackle that?’ The French [Air Force] and UK [Royal Air Force] definitely bring a unique perspective on how they would tackle a problem and that is helping everyone. They tackle problems

differently and give us that unique perspective that a coalition force brings.’

Wg Cdr Chris Hoyle is the officer commanding No 1(F) Squadron. ‘The unshakable bonds between the air forces of our nations have stood the test of time and remain central to our collective security’, he told CA. ‘Future security challenges and greater financial constraints have prompted increased co-operation between our nations to enhance and sustain the effectiveness of our air forces.’

The RAF Typhoon squadron made the most of the chance to work alongside the F-35, the UK being well aware of the need to develop the relationship between the two types as the Lightning II comes into British service. ‘Operating alongside [the F-35] on this exercise will give the RAF a taste of what to expect when the F-35 is introduced into front-line service with the UK armed forces’, said Hoyle. ‘On a tactical level, this is about proving our deployability, and critically this is about the F-22, F-35, Rafale and Typhoon working together as they are the core platforms for combat strike in the coming decades, so learning to work together is vital.

Above: **Mean team. Some of the most potent warplanes on the planet — RAF Typhoon, French Rafale and US F-35A and F-22.**

Right top to bottom: **The top brass — USAF Gen Goldfein (left) is joined by Armée de l’Air Gen André Lanata and the RAF Chief of the Air Staff ACM Sir Stephen Hillier. SIRPA Air**

**The Rafale detachment commander flies a Rafale C in formation with an F-22.**







*'This is about the F-22, F-35, Rafale and Typhoon working together as they are the core platforms for combat strike in the coming decades'*

WG CDR CHRIS HOYLE



With integration, you don't just do it once and you're done. It's about constantly evolving and practising — it's never-ending.

'This exercise has also given us on the front line a taste of working alongside the F-35, albeit the USAF F-35A variant. It's provided us with the chance to develop our TTPs [tactics, techniques and procedures] and to try different things with the F-35 in our team, with plenty of flexibility and freedom in this exercise to test things out.'

**How it works...**

'In general, we have been fighting side-by-side in the air [with the UK and France] for 100 years', says Fesler. 'We don't get to pick and choose when or

where the next war is coming from, but I'm confident that it's coming and when it does our three nations will be side-by-side in the air again. So, we have to figure out how to fight at the high end. We need to be ready on 'night one' and this exercise helps us to achieve that.'

The missions towards the end of the exercise saw the French and British fighters being utilized for their larger numbers and greater weapons-carrying potential. The F-22s and F-35s acted more as the 'aerial quarterbacks', helping to co-ordinate the fight. 'F-22 and F-35 integration is still relatively rare', comments Fesler. 'Any time we can bring them together it's beneficial. These two aircraft were designed to be complementary. For a variety of reasons

we ended up fielding them grossly staggered in numbers that we didn't expect, but we are finally getting them together and finding out what happens when you take two fifth-gen platforms — one optimized for air-to-air and one optimized for air-to-ground — and bolt them together into a team.'

With the plan in place and the various formations of fighters airborne in the airspace, what exactly happens as the scenarios play out? 'It's scenario-dependent', remarked Fesler. 'There are times when you might use a fourth-gen fighter as a missile truck, then there's times the F-22s may handle a Red Air threat to free up the Typhoons and Rafales. A 'lane' could be manned by any

Above: As evidenced by this Typhoon and F-35A, 'Atlantic Trident' saw the various Blue Air players taking a proactive stance with regard to integration of assets.

Above right, top to bottom: The French detachment included a mix of aircraft from different wings, including this Rafale B.

Rafale pilot Capt 'Buzz' talks to reporters during the exercise.

A Red Air F-15E and an F-22 return to base.

of the team; it really depends on the circumstances and the threat.'

Maj Dante is an ex-A-10 pilot who is now flying the F-35A with the 58th FS. He said: 'We were asked to come here to this exercise in order to expose everyone to the F-35 and to make sure our tactics are sound in an international exercise, so they can understand the abilities we bring to the fight.'

Of the F-22, Dante added: 'We both have a lot of situational awareness [SA]. They're able to see the Link 16 but they can't pass it out to anybody. In the F-35 I can share that, which is a huge advantage. I'm a force-multiplier. I'm no longer that single fifth-generation asset that can go in there and kill with the SA I have. I can pass it to anyone on Link 16,

so we're all better for having an F-35 in the AOR [area of responsibility].'

Referring to the long-range scenario versus close-in BFM, Dante concluded: 'We should be shooting dudes before we get into a turning fight, but we are doing the visual fight, holding our own and beating up guys.'

Talking up the capabilities of the fourth-generation fighters, Typhoon pilot Flt Lt 'Hubbs' said: 'We carry a lot of weapons and we can shoot them a long way. The fifth-gen stealth [assets] don't have to commit into a risky area; we can tackle the forward leading edge and the fifth-gen can then pick off the picture.'

One of the distinct advantages the Typhoons brought to bear was that all pilots wore the Helmet-Mounted

Sighting System (HMSS), a luxury not even available for the F-22 pilots. 'Hubbs' again: 'I think it was obvious that we all have our strengths and weaknesses.

We are now getting into the swing-role missions, fighting tens and tens of Red Air threats, and I'm really impressed with debriefs we get flying against a credible air threat of F-15Es and T-38 strikers.'

**Lessons learned**

The senior officers here were in little doubt as to the advantages of coming together in a complex event such as 'Atlantic Trident'. According to Hoyle, 'To work closely with three or four squadrons as we have done here means we really get to know one another. We have even been teaching each other



This image:  
A Rafale  
C breaks  
away from  
its coalition  
counterparts.

Below: F-35A  
pilot Maj Dante  
from the 58th FS  
'Gorillas'.

Right page top to  
bottom:  
The fifth-gen  
heavy hitters —  
F-22 and F-35 on  
the prowl.

A T-38A from  
the 71st FTS  
'Ironmen'.  
The Talons  
replicated  
mud-moving  
adversaries.  
James Deboer

A Typhoon FGR4  
gets airborne  
from Langley.  
It carries a  
centerline  
Litening pod  
and the pilot  
wears the HMSS.



about capabilities in a ground school. We are also able to use the exercise to get some important upgrades achieved for my pilots, such as four-ship leaders and combat-ready workup. In fact, I had two pilots who joined the squadron from the OCU [Operational Conversion Unit] just two weeks before we came here.'

Detailing further what he'd seen during the exercise, Hoyle said: 'The Raptors are like our aerial quarterbacks and we complement them. They can use our missiles and our fuel to help the overall objectives. We brought eight Typhoons here; they have been here supporting a number of exercises with different RAF squadrons, starting with 'Red Flag' and now culminating here. We have been flying six-turn-four jets each day and seen extraordinary levels of serviceability despite being four months into a deployment.'

Regarding priorities when it comes to air combat training, Fesler concluded: 'I've got the merge more frequently in the F-22 than I did in the F-15. The



*'We are finding out what happens when you take two fifth-gen platforms — one optimized for air-to-air and one optimized for air-to-ground — and bolt them together into a team'*

COL PETE 'COACH' FESLER

reason is that they always saw me coming in the Eagle. So they're shooting at me over and over again as I approach that merge, and for you to survive to the merge you are defending against multiple volleys of missile shots. In the F-22 you're typically not defending against multiple volleys of missile shots, so you might choose not to shoot a second BVR [beyond visual range] weapon if the first misses for whatever reason, and you might choose instead to come all the way into the merge. I don't have an invisible jet — if you get visually picked up in that merge you'll end up dogfighting, like it was 100 years ago. That's a fundamental building-block of what it is we teach our young pilots. They need to be able to run the entire spectrum, from hundreds of miles away right in to feet.

'I think the point at which I knew we were having a successful exercise was when a brand-new F-22 pilot stood up at our wrap-up weapons and tactics talk in the vault last Friday and said: 'When I fought the Rafale this is what I saw, but when I fought the Typhoon this is what I saw'. That was a pilot with 50 hours since learning how to fly the jet. That's what we're here for: dissimilar BFM against the best from the UK and France. That's a win because that skill set will pay off in combat when he merges with another aircraft. He has a different skill set than just from working with another F-22.' 📧

