



Trilateral Airpower Exercise

From left: U.S. F-22 Raptor, French Rafale, and British Typhoon fly in formation during a Trilateral Exercise simulating a highly-contested, operationally-limited and degraded environment where allied pilots and ground crews can test their readiness.

Higher Tempo Ops in Contested Airspace

When the Russians came to Syria, they brought their ground-based missile defense systems with them – and changed the calculus of air operations. Not only were they backing the sovereign government in Syria, but they introduced the need by the Western powers to ensure air dominance now in a contested environment.

Clearly this is a reminder not just of things past but of things future. Western defense forces cannot simply show up for slow tempo operations, but even in “land” operations need to consider how the air calculus changes as missile defense systems proliferate.

Airpower in 21st century operations is not simply about operating throughout the spectrum of conflict but at a higher speed necessary to insert, protect and withdraw forces as well. With the building out of air capabilities by global competitors, air dominance needs to be established and ensured, rather than assumed.

Recently, American, British and French Air Forces came together to develop jointly accepted air combat con-ops. The origins of the trilateral exercise came from agree-

ments reached five years ago by the three nations and their air forces.

The exercise, held in December 2015 at Joint Base Langley-Eustis with the high end air combat capabilities of the USAF, the Royal Air Force (RAF) and the French Armée de l’Air, was about recovering lost or diminishing skill sets, honing new ones, and shaping a template for the 21st century transformation of their respective nations’ air combat forces.

The close relationship between the real world and the exercise was highlighted in a remark made by the USAF Chief of Staff Mark Welsh at the Media Day held during the exercise. “Interoperability among allies, and deconfliction in the operations of air forces in close proximity is crucial. We are using the same communications processes in the exercise that we are currently using in the Middle East to provide for interoperability and deconfliction.”

But while the real world was hovering over the event, what the three air forces were working on was shaping a template for 21st century operations within which fifth generation capabilities were being

blended with the rest of the air combat force to create a more lethal, survivable and effective 21st century combat force.

The F-22 was operating as an enabler for the entire forces in which the core capabilities of the Typhoon and Rafale were being leveraged to shape a more capable air combat force. As one Typhoon pilot put it: “The F-22 makes the Typhoon more lethal and survivable.”

The F-22 was publicly ending its orphan period, and although the F-22 has flown with Typhoon in the past, this was its first time flying with the Rafale. As General “Hawk” Carlisle, the Air Combat Commander hosting the exercise, put it: “The whole is greater than the sum of the parts, and we are working in this exercise in shaping a more effective force.”

The threat environment was largely discussed in terms of contested air space. The environment is seen as one in which U.S. and allied forces would have an increasingly difficult time to operate to support broader military operations.

The threat was characterized variously as anti-access, area denial, or multi-spectrum threats. General Carlisle explained it in terms of responding to the new threat envelope. “In this exercise in particular we are focused on enemy aircraft and their missiles, surface to air missiles, and electronic warfare as evolving adversarial threats.” He went on to note that during the exercise “we are focusing on link architecture and communications to pass information, the contributions the different

avionics and sensor suites on the three aircraft can contribute to the fight, the ability to switch among missions, notably air-to-air and air-to-ground and how best to support the fight, for it is important to support the planes at the point of attack, not just show up.” The intent of course, to prevail together in contested airspace.

One key difference from the past is the role of the AWAC (airborne early warning and control) platforms. If this exercise was held 12 years ago, not only would the planes have been different, so would its very role. Back then, the AWACs would have worked with the fighters to sort out combat space and lanes of operation in a hub spoke manner.

With the F-22 and the introduction of the F-35, horizontal communication among the air combat force is facilitated. This means the fifth generation aircraft at the point of attack function as scouts – providing targeting data back to the other combat assets rather than having the AWAC from the rear of the fight acting as the target manager feeding such information to the battle fleet.

As General Carlisle put it: “The exercise was not about shaping a lowest common denominator coalition force but one able to fight more effectively at the higher end as a dominant air combat force. The pilots learning to work together to execute evolving capabilities are crucial to mission success in contested air space.”

Modernization of assets, enhanced capabilities to work together, and shaping innovative concepts of operations were seen as key tools for the three allies to operate in the expanded battlespace in order to prevail. It is an ongoing challenge, which requires the air forces to continually shape relevant skill sets.

The skill set theme was especially highlighted by the head of the RAF Sir Andrew Pulford noted that, as the RAF added two additional Typhoon squadrons and an additional F-35 squadron, he was concerned to shape the right skill sets going forward into a world in which a benign environment for air operations would not be the norm.

The Typhoon is a very lethal combat asset that is leading the RAF attacks against ISIS in the Middle East with the Typhoon-Tornado tandem as a key part of the force package. Typhoon modernization is adding to the lethality and survivability of that platform, making it an even more valuable member of any air combat coalition.

The Rafale was the oldest of the three fighters in the core air combat air force in the exercise. The plane has seen significant combat experience in Africa and the Middle East and Afghanistan. It is the key enabler of the French force approach to joint and expeditionary operations, and over time the combat systems on the aircraft have seen significant modernization.

Perhaps the best capstone comment on the exercise was provided by the head of the RAF: “The important thing is our three air forces can operate together as one,” said Sir Andrew Pulford.

“The three air forces are demonstrating that we can and always have worked well together, that we still can and still do, and it doesn’t matter whether we are operating over Iraq or Syria, or exercising here on the east coast of the U.S., these are three air forces operating as one team and for the common good.” **FLD**

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Dec 2015
Member of the French Air Force inspects refueling equipment during Trilateral Exercises hosted by the 1st Fighter Wing, U.S. Air Force.

These 5th generation aircraft involved in the exercise are among the most technologically advanced assets in the world today.
From left: Typhoon, F-22 Raptor and Rafale.



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