

U.S. Army Europe:

Decisive Action Combined Arms Integration Training with Allied Partners



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United States (U.S.) Army Aviation in Europe trains to fight as part of a combined arms team and often does so with allies and partner nations. Operation Strong Punch was one such exercise; however, unlike others that the U.S. Army has participated in, this was a German planned massive force on force exercise that pitted combined arms teams against each other in a large scenario comparable to what the U.S. military does at its combat training centers. The Germans do take part in exercises at the Joint Multinational Training Center in Hohenfels but this is a U.S. operated training center where the Germans seldom serve as mission command of a multinational team. The 36th Kampfhubschrauber Regiment extended an invitation to the 1-3rd Attack Reconnaissance Battalion, 12th Combat Aviation Brigade to participate in Operation Strong Punch following the success of several smaller informal exercises.

As we train to fight in an environment where we can expect to encounter a near peer threat employing sophisticated, technologically advanced weapons that include lethal air defense systems, combined arms integration and synchronization, especially with our allies, is critically important. But, one piece of that fight that a large portion of Army Aviation has neglected is the electronic warfare (EW) threat. Our adversaries are poised to challenge all military operations on the battlefield with their EW capabilities and Army Aviation will be especially affected. As we have become increasingly reliant on our electronic tools, our analog skills have atrophied (think

paper map navigation), and we (Army Aviation) have limited resources to counter these systems as we move forward of the ground maneuver forces. We've seen the tremendous capabilities of our adversaries in Crimea and Syria where unmanned aircraft systems, jamming, sophisticated radio direction finding, and other EW players have expertly been integrated into their combined arms operations. Part of Operation Strong Punch tested, in limited capacity, the impact of electronic warfare on combat helicopters.

While Operation Strong Punch was not aviation centric, the exercise did incorporate aviation as an integral piece of the exercise. Several situational training exercises (STX) pitted U.S. Apache and German Tiger crews against Bundeswehr air defenses, armor, infantry and electronic warfare assets. These STXs provided fascinating results, as both sides faced a thinking and reacting adversary, rather than rigidly controlled opposing forces in a scripted scenario.

The first Apache and Tiger STX involved conducting a deliberate attack against a mechanized infantry company defended by man-portable air defense systems and a single SA-8. The Apache-Tiger teams maneuvered to their target, with the aid of a German Typhoon aircraft simulating an unmanned aerial vehicle providing intelligence, surveillance, and reconnaissance (ISR) information. As the aircrews reached their battle positions near friendly troops, they were talked onto their targets by German joint terminal attack controllers (JTAC). The aircrews successfully

destroyed their targets, providing the ground element freedom of maneuver to accomplish their mission, and then departed the area. The Typhoon which had previously served as a friendly ISR asset reverted to an aggressor role and initiated a search for the Apache and Tigers as they egressed the target area. We learned from earlier exercises that the Typhoon had difficulty detecting the helicopters from among background clutter with its targeting radar or its thermal or day TV targeting cameras while the helicopters flew at nap-of-the-earth (NOE) altitudes in trees and seldom could detect them at contour flight altitudes. German Army aviation does not place the same emphasis on terrain flight and is not as comfortable operating at these altitudes. They were, therefore, detected more often than the Apache crews. During the egress of the second iteration, one Tiger crew was detected and engaged by an SA-8 while the Apache crews were undetected.

Follow-on missions integrated EW into the fight. We flew similar missions against German troops equipped with newly fielded equipment mounted on a German Fox which could monitor radios and locate aircraft by direction finding.

During the first iteration of the mission, the aircrews turned off all potential sources of electromagnetic radiation (fire control radar (FCR), satellite communication, Blue Force Tracker, and radios) but left the doppler and radar altimeter on for safety. The crews flying the second iteration did not. Both teams were located by the surveillance radar, but the teams using their





radios were located earlier by the Fox while the ground unit monitored their radios with startling clarity. The AH-64's radio frequency interferometer (RFI) and the FCR proved highly effective during this fight. As the SA-8 and ground radars emitted, they were immediately located by the RFI. The crews were able to locate vehicles quickly with the FCR enabling targeting of those entities.

American-German attack crews planned their missions together, highlighting differences in doctrine and employment. Being more accustomed to flying by deliberate air mission requests and under the control of JTACs, our German counterparts did not emphasize the same aspects we did. Our careful selection of battle positions, ingress/egress routes, and radio architecture enabled the U.S. crews to fare better than our counterparts. This is not a reflection of pilot skill but highlights the importance of deliberate mission planning when not under the direct control of a JTAC or equivalent.

Another critical aspect of training is leader development. Empowering and training new air mission commanders and platoon leaders truly invests in the future of aviation. As technology improved and manned-unmanned teaming became a central piece of aviation in Iraq, general officers have literally, on multiple occasions, called

shots miles away from the engagement that on-scene air mission commanders should have been making. Decentralizing decision making and empowering junior leaders to take disciplined initiative within the commander's intent enabled U.S. participation in this exercise. Apache aircrews under the leadership of a lieutenant fared better than their German counterparts while sparring with air defenses (we received 50% fewer notional aircraft shoot downs by the SA-8 emulator). This lieutenant managed the aviation maintenance, mission planning, and mission execution as the senior U.S. officer during Operation Strong Punch.

Aviation must continue to train as part of a combined arms team and whenever possible, we must do so against a thinking and reactive adversary if we are to stay relevant to the fight. We must be able to support our ground counterparts in contested airspace with the threat of hostile air, EW, and sophisticated air defenses. This exercise served to validate much of how we train and fight but also highlighted the dangers we face in such an environment. Additionally, we must continue to train alongside our ground counterparts so we know how best to support them and the ground force commander can train how best to employ aviation to accomplish the mission.

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Lessons Learned

-Electronic warfare is a significant threat to aircraft. Radios can be detected, monitored, and the emitter located. Global Positioning System signals can be spoofed and jammed (though for safety reasons, this was not done during the exercise). To counter this, aircrews must do all that they can to maintain radio silence and rely less on electromagnetic emitting devices in the aircraft during the infiltration. Relearn paper map skills, devise alpha-numeric flash cards for basic visual intra-flight communications, and be innovative in ways to reduce your flight's signature.

-Terrain flight is truly effective in avoiding detection by air defense artillery and fighter aircraft thermal, optical, and radar systems. Identify the EW training facilities available to your unit and make every attempt to use them – frequently. Perfect this skill.

-Deliberate mission planning makes a tremendous difference. Selecting good battle positions and alternate positions, as well as ingress/egress routes during mission planning really matters.

-Our allies are motivated, but don't have the institutional knowledge, combat training center experience, or actual combat experience that we have – that said, both sides can benefit from exchanging tactics, techniques, and procedures.

-The RFI array on the FCR is extremely effective in locating and engaging enemy air defenses. Additionally, the FCR provided aircrews with utterly invaluable situational awareness of where enemy vehicles were and was effective in locating and identifying radar emitters. Be extremely proficient in the use of these tools.



Acronym Reference

EW - electronic warfare	NOE - nap-of-the-earth
FCR - fire control radar	RFI - radio frequency interferometer
ISR - intelligence, surveillance, and reconnaissance	STX - situational training exercise
JTAC - joint terminal attack controllers	U.S. - United States

