

Tactical Unmanned Aerial Systems: Forward Observation in the Brigade Combat Team

By 1LT Chrystina M. Hjelm

The Army is expanding its unmanned aerial systems (UAS) capabilities, and leadership must adapt by facilitating combined arms training into their kill web battle plans for successful Large-Scale Combat Operations (LSCO). The Chief of Staff of the Army, General Randy A. George, discussed

team (BCT) training means only a fraction of its potential is used in future missions. It will take time and effort to get leaders Army wide on board with such significant organizational change. In 2022, I commissioned as a Field Artillery officer with the intention to get a footprint in



Clockwise, from top left: Inside the control shelter of the RQ7B shadow system. The RQ7B shadow aircraft after landing. A 1-148 FAR Forward Observer scanning the area. The M109A6 standing by for missions. (Photos from DVIDS)

the importance of kill webs in his 2024 priorities.¹ When I operated in a task force as a UAS operations non-commissioned officer from 2018 to 2019 in Syria, the command and control was elegant—every mission streamlined and exceptional—due in large part to the tactical operations center being well versed in RQ7B Shadow Tactical Unmanned Aerial Systems (TUAS) capabilities. Limiting TUAS to intelligence collection only in brigade combat

fires and build on my objective of developing combined arms training for future LSCO. The war in Ukraine against the invading Russian Federation demonstrates the need for unity within fires, maneuver and intelligence showing that their integration equates to lethality in LSCO.

The BCT commander needs expertly trained TUAS operators in conjunction with fire

¹ Army News Service. Army Chief of Staff Outlines Service Priorities at AUSA. (Army.mil, 2023).

support specialists to gain “accurate and timely information on enemy, terrain and the civilian population as they affect the mission”.² UAS operators have tremendous untapped potential and are effective as aerial forward observers for fires while also serving as an intelligence, surveillance and reconnaissance (ISR) asset for the brigade. TUAS provides the flexibility needed to support commanders in their mission while

effectively transition to intelligence staff as a captain, continuing as an FSO with intelligence operations experience.

FSOs also create a dynamic relationship, often contributing to leadership professional development (LPD) at the intelligence shop for junior MI officers, that would strengthen these bonds. The 13A is an ideal resource to support the



Clockwise, from top left: 2LT Cannon, a Fire Support Officer and first 13A female in the IDARNG. (Photo from DVIDS) In the hangar at Lafarge Cement Factory in Syria. The RQ7B preparing for missions. SPC Hennis (MSARNG) standing by the RQ7B. (Photos by SPC Dean Lee, HIARNG)

also supporting the S-2 intelligence officers as their primary collection asset.

When the fire support team (FiST) is undermanned, the battlefield commander’s battle plans are compromised. Assigning a Military Intelligence (MI) branch detailed FA officer (13A) as the platoon leader (PL) for the TUAS platoon will modernize indirect fires, honing them into trained and lethal assets for LSCO. A 13A trains as a fire support officer (FSO) and can more

MI and BCT commanders by integrating TUAS into fire support rehearsals applying TUAS capabilities, such as ISR, communication relay systems, target location error (TLE) refinement and call for fire (CFF). Furthermore, FA officers synchronize training between joint fires observers (JFO), TUAS, joint terminal attack controllers, close air support (CAS) and Army attack aviation.

The unmanned systems operation technician (150U) is a subject matter expert on TUAS operations.

² Department of the Army, Reconnaissance and Security Operations (Army Publishing Directorate, 2023), 1–4.

Brigade staff should be well versed in the 150U's roles and responsibilities to foster communication, delegate expectations and create oversight. Aligning the junior 150U with an FSO as a PL would ensure that they had a fires subject matter expert to develop TUAS within the BCT and ensure that UAS shapes the deep fight of higher echelons.

Modern TUAS and small aerial unmanned systems are being developed to replace the current systems. Their capabilities will only further expand what we have currently. The RQ7B Shadow TUAS is capable of interfacing with the Advanced Field Artillery Tactical Data System (AFATDS), facilitating aerial communication relay using Single Channel Ground and Airborne Radio System (SINCGARS) and line of sight (LOS), as well as range finding and laser designation for munitions.³ UAS reduces TLE by bringing the sensor closer and overhead of the target. Optimal flight paths for optics are loiters above and offset of the target within a Certificate of Authorization in U.S. Airspace, or a specific set of kill boxes overseas. Command staff should continue to consider the distance of aircraft flight paths from the targets due to degradation of TLE.

TUAS leadership should conduct LPD briefs for fires and maneuver commanders to explain TUAS capabilities. The FSO and battalion (BN) 150U should be responsible for developing fires and intelligence rehearsals in training exercises to expand combined arms training in support of key objectives. UAS operators must maintain flight hours regularly, giving ample opportunity for cross training. The BN FSO should coordinate regular CFF training between JFOs and TUAS operators when CAS is not available.

FOs play an essential role in the maneuver company as they guide weapons systems onto the enemy. Maneuver elements without their expertise would have a significant disadvantage attempting to use indirect artillery systems. Within a BCT, Shadow operators often have minimal interaction with fires and maneuver operations. TUAS is fully capable of supporting maneuver through the BN Fires Cell. Nesting TUAS with fires and maneuver allows the battlefield commander in LSCO to achieve high levels of interoperability between all warfighting functions. Maneuver commanders

need to facilitate training with TUAS during live fire mortar events. TUAS can give 10-digit grid locations using a laser range finder or laser designator along with other technical capabilities that offer immediate adjustments. Regular relay training allows the commander a contingency plan when communication is degraded, and a remote video terminal allows maneuver commanders live visual situational awareness of the battlefield from the TUAS camera system.

TUAS is a combined arms platform with the assistance of FSOs and various staff within the BCT. Leadership in the BCT can integrate TUAS by asking the intelligence shop for cross training. Combined arms training for executive kill webs prepares the BCT for LSCO. Give FSOs the ability to integrate fires with UAS to strike the enemy with steel-on-steel precision. Flying high above, the UAS and the King of Battle shall protect the nation's best.

1LT Chrystina M. Hjelm currently serves as a 13A Platoon Leader in C BTRY, 1-148 FAR in the Idaho Army National Guard out of Burley, Idaho. She has served for 15 years with the first 12 years as an enlisted unmanned aerial vehicle operator with the RQ7B shadow system. She achieved the rank of SSG and responsibility as an aircraft commander with one tour to Syria with the 155 ABCT in support of OIR. She is married with two young children and works as a civilian for Micron as a process technician.

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³ Department of the Army. Technical and Operator's Manual for Shadow Tactical Common Data Link System, RQ7BV2 (Redstone Arsenal, 2017) 2-55.